DITORIAL INDEX-PAGE 2

MARCH 1951

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COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS

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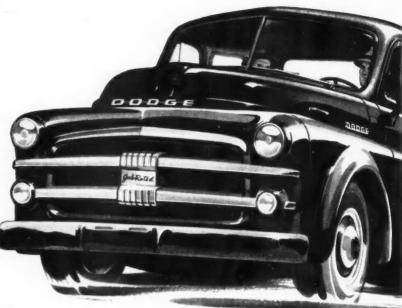


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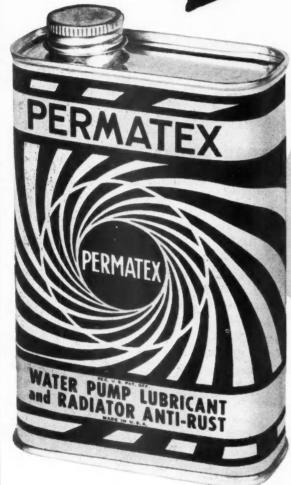
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COMMERCIAL CAR JOURNAL

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JOURNAL CCI DIGEST

Washington Defense Agencies

Don't miss CCJ's special insert chart showing interrelation of mobilization agencies. See Page 57.

New Jersey's 36,000 lb. Turnpike

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What with all the heat on 18,000 lb axle loads, readers will welcome details of the New Jersey Turnpike being designed for 36,000 lb loads. In addition it will have a "black top" asphaltic surface, new innovations in sub-grade design, and help to alleviate the world's worst traffic bottleneck. See Page 52.

Steel Masks Cut Bus Painting Costs

Masking windows prior to body painting is a relatively expensive job. Depending on the vehicle's size and the number of windows, it can consume as much as a day. Then, there's the cost of paper, tape and/or masking compound. The East St. Louis City Lines made a set of permanent masks of steel that not only are usable indefinitely but the time to slip them on and off is almost insignificant. They save a day's labor per bus. See Page 54.

Streamlined Cost System

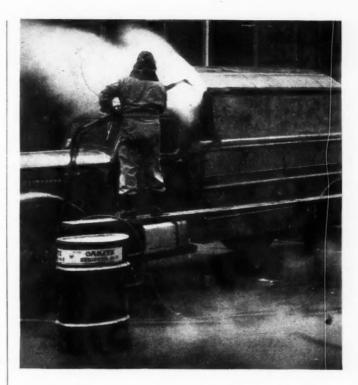
Here's a cost accounting system that provides constant cost comparisons between vehicles, monthly fleet comparisons, yearly comparisons, a full statement of maintenance or any other cost data on a single, organized and itemized sheet. It's a system that management can use to show department heads and other personnel exactly what fleet costs are like and where they are out of line. See Page 56.

Liquidating Dry Sleeve Problems

Piston seizures with attendant sleeve breakage, unsatisfactory piston ring life and burned valves arise when sleeved engines are not overhauled properly. If you are having such troubles, consider the recommendations of a service specialist, who shows common pitfalls in boring, measuring, fitting and breaking in new sleeves. Page 70.

Five Vehicles for One

The next time you get to Atlantic City—whether to a convention or to take a dip in its famous surf—be sure to visit the Fire Department's shop on Maryland Ave. and watch the boys build fire engines in their spare time. The current program includes five vehicles, of which three are finished, one ready to go in the paint shop, the fifth to go "on the production line" sometime in March. These five engines will cost them \$35,000—the price of one first-class 85-ft aerial ladder. See Page 68.



Cut hours off stripping time

"We save 6 hours and \$38.51;" "we stripped nine coats of paint from one side in 12½ minutes;" "we stripped the truck in 3 hours, and the material cost only \$2.75."

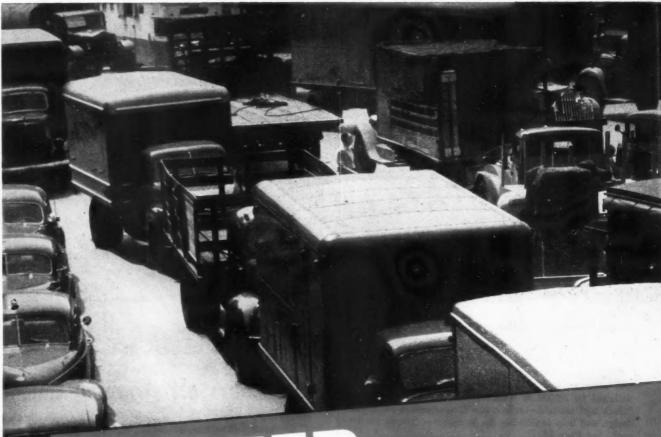
These are typical results reported by fleet operators who use Oakite paint strippers, applied by job-designed Oakite methods. They get complete stripping in shorter time, without expensive, dangerous sandblasting—without laborious scraping. They save equipment downtime, cut material costs.



FREE BOOKLET 4401 gives complete details on Oakite paint-stripping methods—tells how to save money on such jobs as descaling blocks; declogging radiators; conditioning fuel pumps; cleaning lube and fuel oil filters, clutch and brake parts; body-washing; cleaning and deodorizing bus and truck interiors. Write kite Products, Inc., 26D Thames St., New York 6, New York.



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Lubricants and Fuels

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CONFERENCE CORNER

PRESENTING FACTORY ENGINEERS' VIEWS ON TIMELY SUBJECTS OF INTEREST TO FLEETS

Subject: Transportation Costs

Question: How Can Transportation Costs be Reduced?

Recently, a survey was conducted jointly by the National-American Wholesale Grocers Assn. and the GMC Truck & Coach Division of General Motors and its advertising counsel, the Kudner Agency, Inc. The essential facts of the survey, which were presented to members of the NAWGA on February 16 at its convention in the Drake Hotel in Chicago, are such an excellent answer to the question as to how transportation costs may be reduced, which is one of the most frequent questions asked CCJ editors, that excerpts from the survey are reprinted herewith.

This is a preliminary report on a continuing study to determine how to achieve greater economy in truck transportation costs. However, it shows how many wholesale grocers may cut delivery costs from 20 to 50 per cent by properly analyzing their fleet operating expenses. In one instance, a savings of \$100,000 annually in fuel costs alone was indicated if proper equipment was purchased by the wholesaler.

Transportation engineers and survey experts went into several "test" wholesale grocer houses of various sizes and types to search out the facts to prove there is a vast new field of profit to wholesalers if they will correctly interpret their transportation costs.

Of course, it is first necessary to have an accounting system that will provide the proper information. In this connection, complete data on what is said to be a radically new cost accounting system, designed especially for fleet use, is available by contacting association headquarters.

W. L. Vande Water, of GMC said . . .

In pointing up current mis-practices in transportation cost-accounting, Vande Water said that one large wholesaler whose aim was to keep delivery costs below 1½ per cent of sales had fluctuations from 1.35 to 1.55.

"It doesn't look like much on a sheet where other figures run into the tens of millions," Vande Water said. "But in dollars that .2 difference is \$50,000. Would that swing of \$50,000 look any different if I said that—in terms of close margins on which whole-

sale grocers operate—it was the net profit on from three to five million dollars of business?"

Vande Water pointed out that the average NAWGA member owns more highway transport equipment, hauls more tons and operates greater mileage than the average full-time trucking company, yet had failed in many cases to adopt maintenance programs and other expense-saving methods long recognized by trucking companies because his major interest is something other than hauling.

The firms surveyed covered those ranging from an annual volume of \$5,000,000 to those of over \$25,000,000; firms with large institutional volume as well as those concentrating exclusively on retail groceries, firms concentrating on large customers only, and those not restricting order size. The territories covered metropolitan districts, medium and small cities, suburban areas, rural routes, service of affiliated "cash and carry" wholesale branches, ships stores, export and institutional routes.

The study included all different loads, sizes and types, length of hauls, traffic densities, seasons of the year, backhauls, maintenance and cost accounting.

J. W. Millard of Kudner said . . .

Mr. Millard offered statistics in the form of bar charts and graphs to indicate possible savings in transportation costs of 30 per cent or more in over-the-road hauling merely through the choice of proper engines. and savings of from 10 to 20 per cent in city peddle service by selecting trucks of proper capacity and traffic flexibility..

The basis for making such selections was a standardized accounting procedure that lets wholesalers find the lowest cost transportation operation for his particular work. Daily service card forms, monthly performance card forms and a cumulative annual performance card for each vehicle were proposed by Millard to eliminate inadequate cost accounting procedures now in use.

(TURN TO PAGE 170, PLEASE)

America's Fleets...

AUTO-LITE
TRANSPORT
SPARK PLUGS



COMMERCIAL CAR JOURNAL, March, 1951

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Rear Wheel Wobble

With an impending tire shortage fleet shops will be giving more attention to ferreting out the causes of premature tire wear. One of the most common, and incidentally, one of the most easily remedied problems is this rear wheel wobble. Even notice while driving behind a truck, that it happens in the best of fleets? Here is what causes runout:

1. Improper tightening of wheel lugs.

- 2. Improper assembly of, or use of wrong type lock rings.
 - 3. Bent wheels or spring rims.
 - 4. Bent rear axles.
 - 5. Worn wheel bearings.

Obviously these factors are not new to fleetmen, and checks for these very conditions are listed on most PM forms. However, it appears that the program is not being carried out somewhere along the line. For there are entirely too many wheels wobbling over the road these days.

A wiping action at regularly spaced intervals around the tire indicates that the tire has been wobbling, and a quick check will determine whether the misalignment is due to bearing, wheel or rim. A test for both lateral and radial runout can be made with the vehicle jacked up and the engine driving the wheels while a fixed straightedge is held next to the rotating tire.

Improper tightening of wheel lugs is one of the most common causes of runout. This occurs when one side is pulled down ahead of the opposite side, where care is not taken to true the rim before tightening lug nuts. In the case of disc wheels a bent disc or an accumulation of rust or dirt between the bolt circle of the disc and the flange of the hub may be responsible for the condition. With disc wheels failure to tighten the inner nut securely before the outer nut is pulled down results in similar misalignment.

Unfortunately there are two makes of lock rings on the market that look alike, but are not interchangeable. If the wrong type lock ring is used, you can expect not only improper seating, but possibly accidents arising from loosening lock rings.

Bent rims caused by curb bumpings, ruts, etc., are important contributors to tire wobble and resultant wear. Bent rear axles caused either from overloading or from accidents produce runout conditions and premature wear. And finally worn wheel bearings permit wheel runout or wobble and similar wear.

Pre-Lubricate Rebuilt Engines

Scuffing damage arising from metal to metal contact of moving parts after an engine has been put together causes much of the initial wear that produces short life of parts. The lubricating system whether it be splash or full pressure system cannot possibly get oil to the valve stems, cylinders, pins and bearings in time to adequately lubricate them if the engine is started up while these parts are dry. It is the mechanic's duty, then, to oil all working parts prior to assembly. An emulsified oil or a light vaseline is satisfactory. Colloidal graphite preparations also can be used.

Use of oil leak detectors prior to starting the newly overhauled engine will prime the lubricating system and cut the scuffing period. It is sometimes advisable in certain types of engines to prime the oil pump with a light grease so that oil pressure will be built up quickly.

Piston Ring Gap Location

Several simple principles govern the spacing of ring gaps with respect to each other and the piston skirt. Even though rings may turn in operation, it is best to start with the gaps in adjacent grooves spaced as far apart as possible. For iron rings this means to alternate the gaps 180 deg apart.

Practically all pistons are now cam ground so that the pin hole sides of the piston skirt have the most clearance. Consequently there is a slight advantage to placing the ring gaps away from the pin sides where the greater clearance means a thicker oil film is present. Therefore it is advisable to start with the gaps centered alternately on the major and minor thrust sides of the piston.

The generally accepted practice with respect to expander type rings is to place the expender gap in the piston groove so it will be opposite the gap in the iron outer ring. This also applies to the expander and spacer of a steel rail type of oil ring. With respect to the steel rails which are held apart by the spacer, their gaps should be 180 deg apart with one steel gap 90 deg around in one direction from the spacer gap and the other steel gap 90 deg around in the opposite direction. In this way the four gaps of a four-piece steel oil ring are spaced 90 deg apart, giving the best initial set-up.

(TURN TO PAGE 14, PLEASE)

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At Your Service

Continued from Page 10

Transmission Leakage

-Plymouth

Should leakage occur at the countershaft hole in the front of the transmission case, thoroughly clean the hole with gasoline or a solvent and pack with a gasket cement. Apply a piece of masking tape over the hole to allow it to set. An alternate method is to use a welch plug. Care should be taken not to damage the countershaft hole when installing the plug.

Stalling Engines

-Studebaker

A spring loaded needle valve and seat assembly. Part No. 680279, is available for 2R16A and 2R17A model trucks operating over unusually rough roads, or at steep angles such as occur in some dump truck operations. The purpose of the assembly is to prevent flooding of the carburetor and eliminate the stalling of the engine that usually occurs at slow speeds as a result of high fuel level.

Clutch Release Lever International Harvester

The clutch release lever used on the L-190, L-200, L-210, LF-190, LF-210 series chassis and L-185 chassis models has been strengthened by increasing the thickness of the lever from $\frac{5}{8}$ to 1-in. Where breakage of the clutch release lever used on the above model is encountered, it is advisable to install the new lever having the increased thickness.

Brake Drum Distortion

L-130 Series

Some few instances of brake drum distortion have occurred on the L-130 series chassis when the 5.50 rim size is used. This may be caused by interference between rim of wheel IH No. 58 284 HC and the flange on the rear brake drum IH No. 85 613 R91.

Whenever this condition is encountered it is advisable to check for points of contact between the wheel rim and brake drum flange. Remove material from brake drum flange.

Air Cleaner Seal SD-220 & SD-240

When carburetor air cleaner has been removed for cleaning the filter element and changing the oil in the oil pump on SD-220, SD-240 engines, care should be exercised to make sure the oil seal gasket between the air cleaner upper and lower body has not been omitted upon reassembly. Omission of the oil seal gasket will permit dust and dirt to enter the carburetor through the unsealed joint between the air cleaner upper and lower body, causing rapid engine wear.

A new improved oil seal gasket, IH No. 64146 R2, has been provided for the above engine air cleaners and replaces the old type gasket IH No. 64146 R1. The old type gasket is likely to slip off the lower body assembly unnoticed, becoming lost; thereby leaving an opening for unclean air with resultant engine contamination.

Rear Axle Assembly

—Studebaker

The 4.82-1 ratio rear axle assembly for 2R5 and 2R6 model trucks, has been changed to 4.89-1 and the 4.55-1 rear axle to 4.56-1 ratio. The ratio change results in a better tooth combination giving quieter operation.

The ring gear of the new axles is of heavier construction and the bolt circle has been changed. With the new design the ring gear cap screws are directly in back of the ring gear teeth, thus reducing the stress on the cap screws.

The differential side bearings are 3/16 in. (total) further apart, making necessary a change in the axle housing. However, by placing the differential side bearings further apart the same differential case can be used with the standard and all optional gear ratios. The new axle assembly can be identified by the number "44" cast in the lower reinforcing web on the right rear side.

Use Proper Lubricants

-Federal

A large percentage of service problems with transmissions, auxiliary transmissions and rear axles have resulted from the use of wrong lubricant or infrequent changes of lubricant. In many cases failures of various parts have resulted also from too much or too little lubricant.

Conditions found in a large number of axles and transmissions are foam and oxidation. Oxidized lubricant is a gum, wax or varnish substance, which forms on metal parts and does not permit the lubricant to adequately protect these parts. Foaming originates from dirty lubricant, lubricant that is too heavy. lubricant having too much free fatty acid and from moisture, the latter being drawn into gear cases by condensation caused by changing temperatures. An excessive amount of foam results in lubricant leaks due to increased volume, pressure buildup and failure of parts. The increased volume causes the lubricant to run out the axle shaft sleeves into wheel bearings and then through the oil seals. Foam does not permit a free flow of lubricant to reach some parts, especially pinion bearings, thereby resulting in failures.

Engineering Improvements

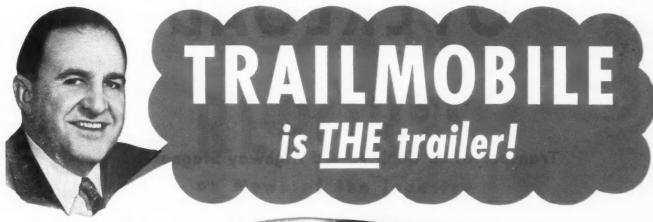
-Autocar

A new valve, assuring faster brake application is being installed on Autocar trucks as standard equipment. Known as Westinghouse Type D-1, the new valve has larger internal passages and other improvements permitting a faster flow of air. The driver's foot upon the pedal thus has more immediate effect upon the brakes at the wheels.

Autocar has relocated the generator on all Blue Streak gasoline engines on conventional models from the right side of the engine to the left, directly over the distributor. This provides better cooling for the generator and permits the use of larger units. Servicing of the generator is made easier. Gear drive has been abandoned for dual-belt drive.

The Autocar 447 and 501 Blue Streak gasoline engines are now equipped with Rotocaps so that the valve heads are heated more uniformly. Sodium filled stems on the exhaust valves help to dissipate the heat. There is better circulation of cooling water around the exhaust valve seats, and exhaust valves and seats are faced with steelite.

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The OVERLOAD

EDITORIAL COMMENT

Transportation Can't Afford Highway Stagnation

SOME readers may well ask why Commercial Car Journal, predominately directed to the interest of better truck and bus maintenance and operations, should be devoting as much space as it is to the highway problem. The answer is two-fold but quite simple

First is the straight news value. Four months ago on this page we mentioned that "18,000 lb axle loads" was the most talked about phrase in the industry. That is even truer today. In this issue alone, it will be found that highway discussions dominated the annual meetings of both the Private Carriers (Pg. 51) and the Trailer Builders (Pg. 72). In addition there were many similar discussions at local levels wherever fleetmen gathered.

Second is that fact that highways, the arteries over which all truck and bus transportation must flow, are on the fire right now in many of the 44 state legislatures now in session. Thus those readers not already interested in highway discussions very definitely should be. For anything that will affect their cost of doing business is just as important to them as to the industry's go-getters who are carrying the ball.

To stimulate thinking on this vital subject, here are some basic truths which we believe to be self-evident, but all-too-often neglected, particularly in legislative circles:

1. Any increase in highway taxes results in higher transportation cost.

Obviously the tax must be passed along to the consumer for we don't get something for nothing. This is particularly true of the vicious ton-mile tax being spearheaded by rail interests in New York and Tennessee, and watched across the nation. It also is true of proposed increases in Federal taxes and of the idea of a transportation tax on private carriage now in embryonic form.

2. Failure to eliminate bottleneck states results in higher transportation cost.

Pennsylvania and Tennessee are prime examples of low gross-weight philosophy. When legal and economical higher loads from adjoining states must be reduced at the bottleneck, both handling and equipment costs rise sharply. The great port of Philadelphia, still second largest in the nation, loses immense traffic volumes to New York and Baltimore, despite longer and more congested hauls simply because of the Pennsylvania road block.

3. Every reduction in axle loadings results in higher transportation costs,

Recently, A. B. Gorman of Esso-Standard Oil produced these amazing figures. Replacement of a standard 60,000 lb gvw three-axle rig with a 60,000 lb five-axle rig, to comply with the law proposed in New Jersey in 1950, would result in an increased investment of 20 per cent; an increased operating cost of 33 per cent; and a decrease in productivity of 17 per cent.

4. The philosophy of highway stagnation at 18,000 lb axle loads is catastrophic.

Nowhere in history can there be found a precedent for setting a freeze on future development. Yet that is exactly what our highway administrators want to do. "The 18,000 lb limit," they said in a recent Congressional report, "should be rigidily enforced, without future increase." Has anyone else ever asked for a freeze on new and better techniques?

5. There is no basis for the conclusion that an 18,000-lb axle load is an ideal maximum.

While the Maryland Road Test, faithfully reported by this publication, has produced more and longer cracks on the heavy axle sides, it must be remembered that the great preponderance of these cracks developed after the sub soil had been washed away. No one expects that a rigid concrete slab, supported by air, will long withstand continuous heavy loads. This is the biggest single fault yet found with the Maryland test, and it is to the Highway Research Board's credit that no final conclusions have yet been drawn. That's a vital point to remember, should "results" of the test find their way into legislative hands.

6. It is both practical and possible to build highways for at least 36,000 lb axle loads.

In this connection we hope every reader will study the article on the New Jersey Turnpike which begins on Page 52. While COMMERCIAL CAR JOURNAL is opposed to the toll principle as a means of highway financing, it must be admitted that this highway built in competition with public facilities, will do much to alleviate the world's worst traffic congestion—and at relatively low cost to the user.

Bart Rawson

REPORTS

on News of the Industry

Material Substitution to Raise Costs

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The substitution of other materials for those made critically short by mobilization demands may increase manufacturing costs. Alternate materials could require expensive changes in production processes. In addition, the scramble for alternate materials would probably force the price.

This information comes from a release recently given to branch offices of Autocar Co. It continues: "It does not follow that the adoption of an alternate would as certainly reduce quality as it would increase cost. In fact, there may be materials that are generally known to be as good but which are seldom used because of higher costs alone."

ATA Tackles Cross-Country Problem

Participation of the American Trucking Associations, Inc., in the current legal battle between ICC and Pacific Intermountain Express Co., will be "in principle only." Intervention will be under way shortly for the purpose of attacking the ICC position that the railroads should be protected from direct truck competition on transcontinental service. The main issue involving the purchase of Keeshin Freight Lines, Inc., of Chicago by PIE will not be involved in ATA action.

National Vehicle Registration Proposed

A bill has been introduced in the House of Representatives which would impose an annual federal tax on every motor vehicle used in the United

States. Under the provisions of this measure every private owner would pay 20 cents per cwt of the net vehicle weight. For-hire carriers (truck or passenger) would pay 80 cents per cwt, with all vehicles having a GVW over 58,000 paying 5 cents per mile in addition. Plates issued by the Commissioner of Internal Revenue would be displayed at the rear of the vehicle.

Car Operating Costs Increase

Owning and operating passenger cars in the U. S. costs approximately 6 per cent more during the past 18 months, the AAA reported recently. A breakdown of this new cost average, applicable to cars in the low-priced class, shows that fixed costs of such items as insurance, license fees, and depreciation for cars driven under 18,000 miles now averages \$533 in comparison with about \$506 in the summer of 1949.

Rate-Cutting to be Studied

The executive committee of the American Trucking Associations, Inc., has voted to establish a special subcommittee to study what it termed a "disastrous trend" in selective rate-cutting on competitive traffic by the railroads. In its statement, the committee said that such ratecutting by the railroads has ICC sanction and that rail losses are recouped on a non-competitive traffic. It also stated that the ICC has not only the power but the duty to prevent destructive competition.

(TURN TO PAGE 94, PLEASE)

DATES and DOINGS

- MARCH 21-24—Pacine Automotive Show, Givic Auditorium, Seattle, Wash.
 MARCH 24—Arizona Motor Transport Assn. Annual Convention, Westward Ho Hotel, Phoenix, Ariz.
 APRIL 3-6—Greater New York Safety Council Annual Convention, Hotels Statler and Governor Clinton, New York, N. Y.
 APRIL 5-9—National Tank Truck Carriers Mid-Year Meeting, Boca Raton Club, Boca Raton, Florida.
 APRIL 7—Kentucky Motor Transport Assn. Annual Convention, Kentucky Hotel, Louisville, Ky.
 APRIL 10-11—American Transit Assn. Regional Meeting, Royal York Hotel, Toronto, Ont., Canada.
 APRIL 12-13—Advanced Seminar for Fleet Management Personnel Course, Pennsylvania State College, State College, Pa.
 APRIL 16-18—Society of Automotive Engrs. Meeting, Hotel Statler Hotel, New York.
 APRIL 16-18—American Society of Lubrication Engineers, Bellovue Stratford, Philadelphia, Penna.
 APRIL 19-21—Louisiana Motor Transport Assn. Annual Convention, Bentley Hotel, Alexandria, La.
 APRIL 26-29—Southwest Automotive Show, Oklahoma City, Okla.

- APRIL 30-MAY 4—Materials Handling Conference, International Amphitheatre, Chicago.

 APRIL 30-MAY 11—Course for Trainers of Commercial Drivers, tion, International Amphitheatre, Chicago, Ill.

 APRIL 30-MAY 11—Course for Traners of Commercial Drivers, Pennsylvania State College, Cate College, Pa.

 MAY 7-9—American Transit Assn. Regional Meeting, Davenport Hotel, Spokane, Wash.

 MAY 10-12—Texas Motor Transportation Assn. Annual Convention, Plaza Hotel, San Antonio, Texas.

 MAY 11-13—Georgia Motor Trucking Assn. Annual Convention, Hotel General Oglethorpe, Savannah, Ga.

 MAY 21-24—American Transit Assn. Regional Meeting, Lord Baltimore Hotel, Baltimore, Md.

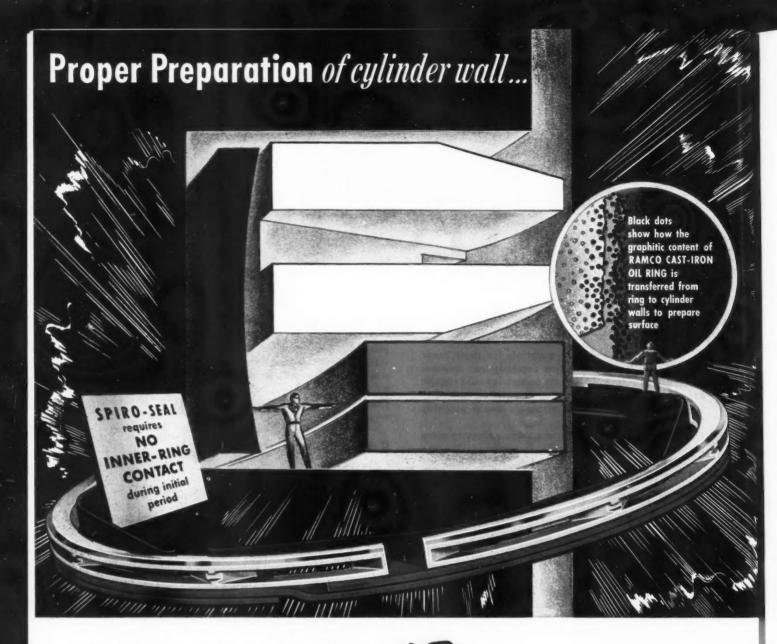
 MAY 30-SEPT, 9—World Transportation Fair, Santa Anita Park, Calif.

 JUNE 3-Society of Automotive Engineers, French Lick Springs Hotel, French Lick, Ind.

 JUNE 7-10—Upper Midwest Regional Show, Minneapolis, Minn. JUNE 14-15—Conference for Top Management of Motor Fleets, Pennsylvania State College, State College, Pa.

 JUNE 22-23—Pennsylvania Motor Truck Assn. Annual Convention, Penn-Harris Hotel, Harrisburg, Pa.

 JUNE 29-JULY 1—Maine Truck Owners Assn. Annual Convention, Mt. Kineo Hotel, Moosehead Lake, Kineo, Me.



another important reason why:

RAMCO LUP CURBS WEAR!



Wear is curbed from the very onset of an installation of Ramco 10-Up Rings because the Ramco Double-Life Principle insures proper wall preparation during the initial operating period.

Only the full-fledged Ramco 10-Up Oil Ring receives initial inner-ring contact. Thus the soft graphitic lubricating qualities of cast-iron are permitted to fully prepare the cylinder wall so that friction will be minimized. Only after this preparation does the steel Spiro-Seal receive contact with the inner-ring and then only for stabilization rather than pressure. The Ramco Double-Life Principle is one of many Ramco originations which CURB ENGINE WEAR by insuring adequate cylinder wall protection and elimination of "Rocking Chair Action."

Another important reason:

Ramco 10-Up Heavy-Duty Piston Rings are especially designed for Fleet Installations . . . Re-Ring or Re-Bore!

DETROIT DISPATCH

by LEN WESTRATE Detroit News Editor

AMA Requests Materials Exemption

A special motor truck manufacturers committee for defense cooperation set up by AMA has been active and influential in getting the essentiality of trucks across to Washington officials. It also told NPA that 763,000 trucks were scrapped last year and that replacement truck need this year is estimated at about 800,000 units. It also said that provision must be made for expansion of the national truck fleet to meet the nation's civilian and military defense needs and that truck exports also will increase this year. It pointed out that since 1941 trucks in use have increased 66 per cent and that 32 per cent (2.4 million) of all trucks in use today are 10 years old or more and normally would be replaced. Placing major emphasis on materials, rather than numbers of vehicles, the committee urged that truck manufacture be exempted from materials limitations for the first six months of this year at least.

Real Hope for Parts Priorities

Meanwhile, prospects look good for government action to assure an adequate supply of repair parts for commercial vehicles. NPA already has a program in the works to allocate enough steel, copper, aluminum, rubber and other materials to keep essential transport vehicles going. In this connection, attention is invited to the White Motor Co. plan described on page 66 of this issue. When a Controlled Materials Plan is put into effect about July 1, similar allocations for passenger car replacement parts will be included.

And Most Heavy-Duty Tires

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Tire manufacturers are making every attempt to keep heavy service tire schedules as high as possible in line with the government's cut in the use of both natural and synthetic rubber. Not only is production being kept up on larger truck tires, but the percentage of natural rubber also is being maintained at the highest possible ratio because of the much more rigid standards on heavy duty truck tires. Trailer manufacturers, however, are running into considerable difficulty in tire procurement, due largely to the heavy upswing in trailer production over the same period a year ago. There have been some reductions in the percentage of natural rubber, but this has been principally in the passenger car and smaller sized truck tires. The rubber order also prohibits use of natural rubber in inner tubes of 8.25 in. cross section or smaller. However, butyl rubber inner tubes have proved entirely satisfactory so the limitation is not serious.

Truck Production Still High

With conditions in a constant state of flux, it is difficult to evaluate prospects for continued high truck production for the rest of this year. At the moment, prospects look better than they did two months ago, and there is some belief now that total output may go well over a million units again this year. Nonetheless, light trucks may be curtailed because of steel restrictions imposed by the government. So far trucks enjoy a much more favorable status with government officials than do passenger cars. Another encouraging fact is that ratio of trucks to passenger cars this year so far is running about 1 to 4, whereas last year it was approximately 1 to 5. January production was the fifth highest on record with 128,000 trucks built.

Even Nickel Not So Bad

Limitations imposed by the government on the use of nickel will have little effect on trucks. While nickel is banned on certain items for plating, the order specifically exempts bumpers, door handles, hub caps, bumper guards and exposed screw heads. Another noticeable exemption is that nickel-bearing stainless steel may be used in mufflers for heavy trucks. Nickel may not be used in grilles, however, and some companies already have replaced plated grilles with units made of sheet steel and painted.

\$750 Million in Defense Contracts

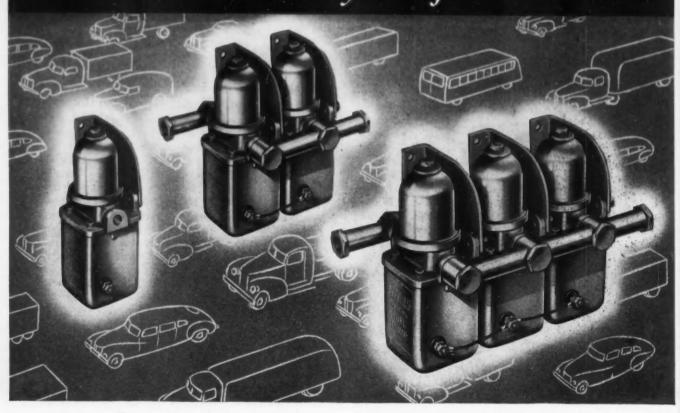
Truck manufacturers have sizeable commitments for military vehicles, but as yet the program has not advanced far enough to threaten regular commercial production seriously and will not for a few months. Practically every truck builder has sizeable war orders for both regular commercial and special military trucks for the armed services plus many contracts for engines, parts, and various subassemblies. War work has been very helpful financially to the smaller companies who have together about one-half of the \$750 million in military truck contracts so far awarded.

Ford Modifications

Ford has made some running changes in its truck line. They include a two-speed axle for the F-7 model with a ratio of 8.58/6.17. On F-2 and F-3 models new design, larger self-energizing brakes have been added for longer lining life and lower pedal pressure. Also the wheel house contour has been modified to give more clearance for heavy duty skid chains.

(TURN TO PAGE 138, PLEASE)

AUTOPULSE ELECTRIC FUEL PUMPS will do a better job on any vehicle in your fleet



Autopulse Electric Fuel Pumps in single or multiple units are the answer to the whole fuel pump problem; because they—

- Fit any vehicle, reducing your fuel pump stock to a small inventory.
- 2 Deliver fuel exactly as needed at constant pressure. This saves fuel, and carburetors are never flooded or starved.
- 3 Can be used with any type or grade of liquid fuel.

- # Will not vapor-lock in any climate or altitude.
- 5 Avoid the need of over-rich mixtures with resulting carbon deposits.
- 6 Always provide ample power for heavy going.
- 7 Eliminate ragged acceleration after idling.
- 8 Prevent stalling in traffic.

AUTOPULSE ELECTRIC FUEL PUMPS
COST THE SAME AS BEFORE THE WAR.
THERE HAS BEEN NO PRICE INCREASE.

Autopulse Fuel Pumps are quickly and easily installed—may be used alone or as auxiliary or standby. When used as an auxiliary, Autopulse uses no current except when extra demand automatically calls it into action.

AUTOPULSE Corporation

Co



WASHINGTON RUNAROUND

by GENE HARDY Washington Correspondent

Truck Priority Still in Effect

The Defense Transportation Administration's General Order-1, directing for-hire carriers to give priority to mail and freight for the Armed Services and the Atomic Energy Commission is still on the books. It is likely to remain valid indefinitely, even though its original purpose was to meet the transportation emergency created by last month's epidemic of "sickness" among the railroad switchmen. Actually, while truckers must continue to move this type freight ahead of all other goods, the order does not prohibit motor carriers from accepting normal commercial shipments. Nor does it relieve them of any of their regular common carrier duties.

With the Interstate Commerce Commission flatly predicting that as the defense program progresses, the amount of traffic requiring motor transportation will increase, it is not unreasonable to assume that DTA will continue to demand that priority be given to military freight.

Highway transportation interests point to DTA Order-1 as bearing out their contention that in the event of a national disaster, such as atomic bombing, trucks and buses will have to take over the bulk of essential, high-priority traffic.

Mack Plays Up Emergency

A special CCJ bouquet goes to Mack Trucks, Inc., for making most of the part trucks and buses played during the rail emergency. In New York and other large metropolitan dailies, while the strike was on, Mack's big display ad told how trucks and buses were at the public's service. The ad was repeated later in all state capital dailies. At the bottom was a footnote to voters reminding them to think twice before voting restrictive legislation or higher taxes on trucks and buses.

Short Haul Mail to Trucks

Asst. Postmaster General John M. Redding labeled the new plan for using trucks to carry mail within a 200-mile radius of large postal centers as "the most important change since the institution of the air mail." While contracts are still in the formulative stage, pilot studies have been completed in Boston, Chicago and St. Louis; others are underway in eight additional cities. Primary reason for the planned shift of mail transport from rail to truck lies in these cost figures. To move a standard 60 ft mail car 1000 miles costs 52 cents per mile. Cost goes up to 80 cents a mile for 200 miles; \$1.85 for 50 miles and \$3.25 for 25 miles. Against these figures the truck cost (equivalent to approximately one-half a car load is 25 to

30 cents a mile regardless of distance. Obviously the big savings lie in the short haul.

No Blanket Materials Exemptions

Chances that the National Production Authority will grant truck manufacturers full exemption from limitation orders on critical materials (see page 31) are less than negligible. Instead, NPA told the industry to apply for relief from these orders on an individual basis if hardship is being caused. Until a Controlled Materials Plan is put into effect around July 1, motor truck manufacturers will have to shift for themselves in regard to getting materials. Further tightening up of limitation orders can be anticipated before that time. The industry is now working on a base period for motor truck production which would be used under CMP. NPA also promises the industry that it will soon have detailed data on truck needs for defense and defense-supporting activities.

Virtually the same situation holds true for parts, except that it is anticipated that replacement parts production will not be allowed to fall below 1950 levels.

While the highway transport industry will have to wait for CMP to be assured materials for vehicle production, several specific allocation programs are in the works. One will provide for the production of about 2000 integral school buses per quarter. Another will assure continued production of tank trucks and trailers. In the planning stages, this program would cover some 6000 units annually.

A formal program for transit vehicles and intercity buses has been delayed but efforts are being made to grant interim relief, particularly from aluminum and copper control orders.

Tires Get Tighter

The rubber situation continues to tighten up. Truck tire manufacturers have been limited by NPA to one line each of standard tread-depth and extra tread-depth tires. The number of lines of special purpose truck tires cannot be greater than the number being made on the effective date of the order, Feb. 19. Inner tubes are limited to one color. Farm tractor and implement tires are limited to a single line.

Passenger car tires are limited to black sidewalls only. Only one line of extra tread-depth passenger car tires may be manufactured, and the number of these tires that a manufacturer may make in any calendar quarter may not be in greater proportion to his total production of passenger car tires than it was in the last six months of 1950.

(TURN TO PAGE 140, PLEASE)

"The Soundest Investment Lever Made

. . . AND MY RECORDS PROVE IT!"



Truck operators, like all practical businessmen, know a good investment when they see it. That's why you'll find trucks equipped with Bendix-Westinghouse Air Brakes on all kinds of hauling jobs. Old hands in the trucking business know from experience that these mighty brakes really pay off—with interest! Extra safety, positive braking control and faster trip speeds are only part of it. Of equal importance are the remarkable savings—savings on maintenance and parts replacement costs and in reduced down-time—savings that mean more profits. It's easy to take advantage of these extra dividends. Just remember, whether on old trucks or new, be sure to specify dependable, economical Bendix-Westinghouse Air Brakes—world's safest power-to-stop!





The retired spark plug manufacturer was suffering terribly from insomnia. His doctor, an understanding sort, told him, "Here take one of these pills. You'll not only sleep you will take a trip and see some beautiful French models. You'll wake up in Paris."

Next morning the erstwhile industrialist phoned his physician: "Doc, I slept! But no trip. When I woke up this morning I was right here at home."

"What color pill did you take?" asked

the medico.

"Yellow."
"Darn!" said the doctor, "I made a terrible mistake. I gave you the round trip

CCI

The tank truck operator broke down in a lonely section of the Tennessee Hill country, and found shelter for the night in a farmhouse. The next morning he sat down to breakfast, served in a large bowl. As he ate, he was astonished to find himself very popular with a small pig which kept nuzzling against his legs in an affectionate manner.

Finally, he addressed his host: "Your pig," said the operator, "seems to have taken a great liking to me. I never knew

pigs were so affectionate."
"Wal," was the explanation, "it ain't you the pig likes partikarly. It's jest that you're a-usin' his bowl, mister!"

Conniving Young Playboy: "I'd like to select a gift for a wealthy old uncle who is very weak and hardly able to walk."

Sales Clerk: "What business is he in? Perhaps that will suggest something which

he can put to practical use."
C. Y. Playboy: "He is not in any business now. He's a retired motor transport operator"

Sales Clerk: "Oh, I see. Well, what did you have in mind?"

C. Y. Playboy: "What do you have in the way of very slick floor wax?"



"We put recaps on his retreads . . . now he wants to know can we give him sidewalls . . .?"

A group of congenial, old time, gearshifters were tying on the feedbag at a roadside diner, when in walked the newest driving recruit hired by their company. The new boy, a college man, swaggered up to the counter and addressing the waitress in a flip manner gave his order thusly: "I crave piping hot ham, tenderized to an Old Dominion tooth-someness; make sure that imbedded therein is the packed-in fragrance of rich, aromatic cloves, together with delectable brown sugar of proven nutriment and overlain with delicious sauce such as would grace a grandmother's tattered old recipe book.

This ham aforementioned, to be served between resplendent twin slices of vita-min-crammed staff of life. With this, draw me a brimming cup of sun-flavored beans from the private estate of the best Brazilian planters, adding thereto a lib-eral portion of thick, homogenized cream from the most contented bovines in the greenest pastures."

The waitress, with a bored expression on her face, shifted her Juicy Fruit, turned about and shouted the order through to the kitchen:

"Pig on . . . and java, with!"

The children had all been photographed and the teacher was trying to persuade them each to buy a copy of the group picture.

"Just think how nice it will be to look at it when you are all grown up and say, 'There's Rose; she's married,' or 'That's Freddy; he's a sailor.'

The Shop Foreman's little son piped up at the back of the room, there's teacher; she's dead."

CCI

The gypsy trucker had been putting off that engine overhaul job for too long. Now he was caught in a hick southern town with a very sick motor that gasped and refused to go any further, until doctored up. Woefully he checked the situation and made his way to the corner garage where he rousted out a hayseed mechanic and

told him his troubles:
Trucker: "How much you charge for reboring a cylinder?"
Rural Motor Doctor: "Two bucks"

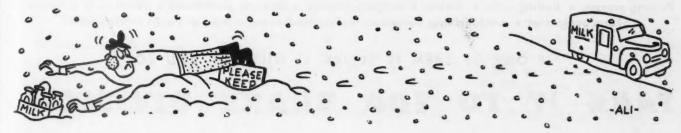
Trucker: cylinders?" "And how much for all six

Rural Motor Doctor: "Mister, iffen you want all six bored hit'll cost you \$5 a hole. Hit gits damn tiresome doin' the same thing over and over!"

Sambo, the ebony hued grease monkey, was on his way to a wake. In an effort to drown his sorrow over the departed friend, he stopped at too many taverns enroute. When he finally arrived, the widow told him to go into the living room to pray for the soul of her deceased mate. But he was so drunk that instead of kneeling before the corpse, he knelt in front of the piano.

On his way out again Sambo was deeply impressed. "Lawsy me," he murmured

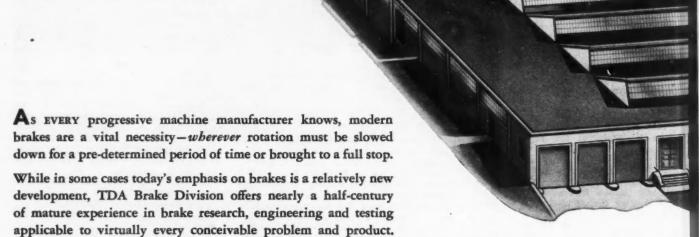
as he passed through the doorway, "that's the finest set of store teeth I ever laid eyes on."



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WHATEVER YOUR BRAKING PROBLEM-

TDA BRAKE DIVISION STAFFED AND EQUIPPED



TDA Brake Division's highly specialized staff and fully equipped plant are completely set up to solve *your* specific braking problem—from the smallest machine to the largest crane or winch. TDA Brakes combine such outstanding features as positive stopping ability, faster, smoother operation, and reduced maintenance. Contact TDA Brake Division today! Or, if you prefer, write for more detailed information.

BEHIND THIS PLANT DESIGNING AND

Each of These Fields Has Its Own Distinct Brake Problems!

Centrifuges • Compressors • Conveyers • Cranes • Cream separators • Diesel hook-ups • Dry cleaning machinery Extractors • Hoists • Industrial electric trucks • Lathes (automatic) • Looms (textile) • Lumber mill machinery Machine tools • Materials handling equipment • Motors • Packaging machinery • Paint mixers • Press brakes Printing presses • Rolling mills • Shears • Warpers (textile) • Welding positioners • Winches • Automotive Farm equipment • Earth moving equipment • Construction equipment • Public transportation

IF ONE OF THEM IS YOURS, IT WILL PAY YOU TO

TAKE IT TO TDA BRAKE DIVISION!

Private Carriers Discuss

Highways and Defense



T. A. Drescher

President, National Council of
Private Motor Truck Owners, Inc.

HIGHWAY problems and defense planning constituted the main theme for speakers and discussions at the 12th Annual Convention of the Natioal Council of Private Motor Truck Owners, Inc., meeting last month in Washington. But a surprise bombshell concerning legislative plans as they effect the private carrier threw the otherwise well-ordered sessions into heated debate. The bombshell was dropped by E. R. Jelsma, staff director of the Senate Sub-Committee on Domestic Land and Water transportation, who is currently drafting a bill to revise the Motor Carrier Act and which is to be introduced in the current session of Congress.

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Private Carrier Definition

Said Mr. Jelsma: "Legislation should be adopted which clearly defines a 'common carrier,' a 'contract carrier' and a 'private carrier.' A National Council's annual convention highlighted by discussions on highway planning and usage with special emphasis on pending legislative threats

definite and clear line of demarcation should also be drawn between each, and certain safeguards established which will preserve the inherent advantages of each of these three types."

Making clear that his views were his own rather than those of the committee (but with the audience fully aware of his hand in the drafting of legislation), Mr. Jelsma cited these four conditions as presumably inequitable practices under the present interpretation of the Motor Carrier Act: (1) collection of compensation from customers by private carriers, (2) return hauls of exempt commodities by private carriers, (3) leasing of vehicles by private carriers, and (4) the exemption of private carriers from the 3 per cent transportation tax now imposed on common car-

In the heated discussion which followed, Council members pinned the speaker down to specific examples, succeeding in expelling some of their doubts where purely private carriage was involved, but came away well aware of the fact that they could not rest on laurels gained in recent and current decisions in the Brooks, Burlington Mills, Schenley and Lenoir cases. On advice of their Gen-

eral Counsel, William A. Quinlan, members placed their faith in the "primary business" test which has withstood repeated attacks by the common carriers and has long been recognized by the ICC.

Highway Codes & Safety

DTA Administrator James K. Knudson, as the convention's keynote speaker, once again urged the adoption of a uniform highway code (CCJ Feb. p. 51) and then specifically urged the private carriers to assist the Defense Transport Administration in making plans for future equipment needs.

He was followed by Major General Phillip B. Fleming, who used both his offices as Undersecretary of Commerce for Transportation and Chairman of the President's Highway Safety Committee to advance the need (as only he can do) for greater highway safety. Using the Council's "Why and How of Fleet Safety" (first published serially in CCJ, Oct., 1948, to Sept., 1949) as a guide, he stressed the "Why" by citing the mounting and appalling highway toll—35,000 fatalities in 1950; up 11 per cent from the previous year.

(TURN TO PAGE 102, PLEASE)

NEW JERSEY TURNPIKE

Milestone in Highway Construction

High-grade flexible "black-top" pavement, 36,000 lb axle loads and new-type

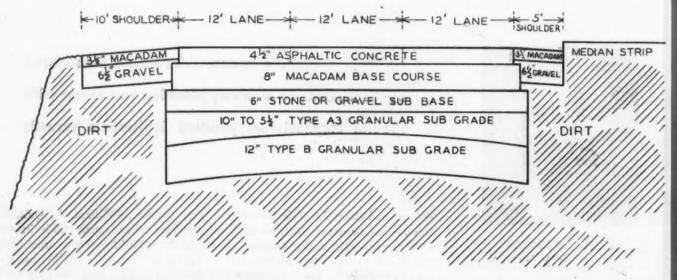
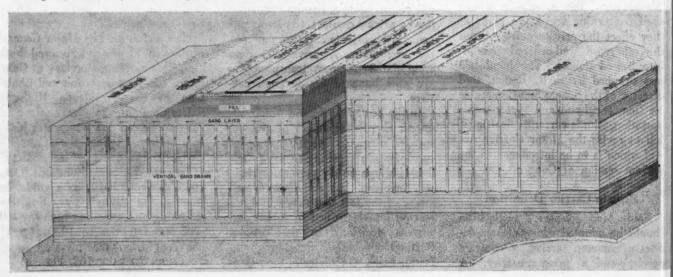


FIG. 1 (above) PAVEMENT CROSS SECTION showing five principal layers on one three-lane side of devided Turnpike. Note that vertical and horizontal scales are not the same, but that total depth, above fill, varies from 36

to 42 in. Asphaltic concrete should not be confused with cement concrete. Entire design is flexible, using highest quality asphaltic "black top" pavement. Even the shoulders are receiving careful attention with total depth of 10 in.

FIG. 2 (below) FILL CROSS SECTION shows details of unique sand-drains. Outer edges marked "meadow" are at original swamp level. Vertical sand cores and horizontal sand layer drain water outward under "berm" or terrace extending beyond dirt fill. Entire pavement section (shown in detail above) is in area adjacent to heavy black lines.



IN ADDITION to serving an area which has the dubious distinction of having the world's greatest traffic volume, the New Jersey Turnpike now under construction across the Garden State, embodies highway construction

features with which every truck operator should be familiar. These can be summed up under three major categories:

1. The surface is "black top" of highest grade asphaltic mix.

2. The designed axle load capacity

is 36,000 lb.

3. For the first time in U. S. highway construction history, real attention is being paid to the preparation of the sub-grades, in some instances as far as 140 ft. below the surface.

It should not be necessary to call to the attention of any fleet operator who has kept abreast of current and vital controversies concerning highway construction techniques that these three features deserve front page attention. While it is perfectly true that only time will tell whether the highway will "deliver" that for which it is engineered, bets from expert circles are extremely heavy that it will. A study of the principal features highlighted below, will show

Meanwhile it is hoped that every reader will ask himself and perhaps his legislators and state and Federal highway officials why it took until 1951-fifty years of modern highway building-to approach the construction problem from so scientific an approach?

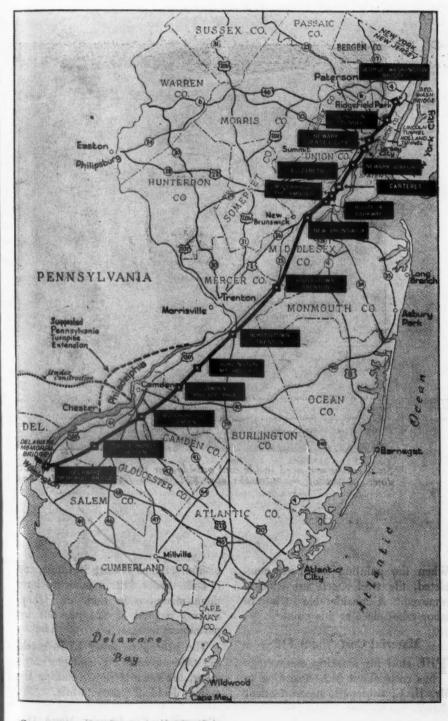
"Black Top" Surface

Returning to the three principal features mentioned in our opening paragraph, it should be noted that ail three are inter-related and none can be considered individually without regard to the other two. But with this word of caution we are going to try to divide them, in layman's language, for the purpose of greater clarity.

The pavement consists of the top three layers shown in Fig. 1. These include 41/2 in. of asphaltic concrete black hot-mixed asphalt compound similar to that used for surfacing many of the nation's best "black top" roads and streets; 8 in. of Macadam base—constructed of several layers of crushed rock meeting detailed specifications, particularly with regard to fractured surfaces and impregnated with treated asphalt binder; (TURN TO PAGE 172, PLEASE)

FIG. 3 TURNPIKE ROUTE runs 118 miles across New Jersey from new Delaware Memorial Bridge to George Washington Bridge, without a single traffic light or traffic obstruction.

sand drains are of vital interest to every fleetman



COMMERCIAL CAR JOURNAL, March, 1951

1951

STEEL MASKS

Cut Bus Painting Costs

East St. Louis City Lines saves a day's time and \$5 in material by using permanent

By L. H. Houck
Special CCJ Correspondent

A SYSTEM of using permanent steel masks for coach windows has reduced painting costs for the East St. Louis City Lines in East St. Louis, Ill. The system is so simple that many bus painters and maintenance men who see it remark, "Now, why didn't I think of that?"

As is well known, the conventional method of covering windows when painting inside and outside coaches is to mask the windows with tape, a combination of tape and a removable substance sprayed on, or paper and masking tape. After the painting is completed, it requires considerable labor to remove the masking. Where paper is used, disposal of the accumulated waste is another item.

At East St. Louis City Lines shops permanent shields have been made to fit the outside windows and the inside windows, both the regular window and the long oval light above.

These permanent steel masks are made of sheet steel, .014 thick, in the cheapest grade of black. Since it will be sprayed on hundreds of times anyway, the cheapest finished steel does just as good as any more expensive material.

These permanent masks are inserted in place and the edges are then taped with ½-in. masking tape.



Steel masks are used inside and outside, for the large and small windows. A set of these masks cost \$24, made for every model bus

When the painting has been completed, the steel sheets are quickly removed. A considerable saving in labor takes place at this point.

Material Cost About \$12

THE steel for masking an average bus costs about \$12, according to Mr. H. C. Glidewell, superintendent of maintenance at East St. Louis, and it costs about \$12 in labor to have them made up in their own shop, making a total of \$24 per bus for permanent masks.

The procedure saves \$5 in masking tape on each bus and one day's labor, the records show, making the system decidedly worth while.

COMMERCIAL CAR JOURNAL, March, 1951

Co



H. C. Glidewell Supt. of Equipment, East St. Louis City Lines

steel masks for painting around its bus windows



East St. Louis City Lines' painter needs but a moment to attach the steel masks. Contrasted with any other system, the time saving is considerable

Explosion-Proof Lighting

ve

or

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A NOTHER innovation in bus painting that has saved money for the company is in the lighting of the inside of the buses for painting.

As everyone knows, the inside of a bus, when it is being painted, is an explosive atmosphere and special precautions must be taken in lighting it up for the job. Of course, special fixtures are available.

There is a specially made reflectortype light used for this purpose that is explosion-proof. This is an expensive fixture costing in the neighborhood of \$40 each.

However, there are many kinds of explosion- and vapor-proof lights

made for use in all kinds of explosive atmospheres in many different industries. These lights have the endorsement of the underwriter's label and are fully safe for use in such places.

Consequently, the company purchased standard enclosures for 200-watt standard bulbs and rigged them into an explosion-proof extension containing three such lights. The fixtures were provided with hooks for hanging on the rails inside the coaches. A set can be used on each side when painting the inside of a coach.

Cost \$4 per Outlet

THE explosion-proof fixtures cost about \$4 per outlet, or \$12 per each extension, plus some extra wire against an expense of over \$100 for a similar rige in the other type lighting. As far as light is concerned, the cheaper layout furnishes considerably more light and, also, puts the light in at a more usable and non-glaring angle.

Painting goes on constantly in the East St. Louis City Lines shops. Wrecks and damaged panels require special out-of-routine work, such as spot or sectional painting, but the regular work goes on every day. Thirty-two buses are painted each year, and it takes about three years to get over the entire fleet.

Body Shop Gets Saved Time

THE body and paint department operates together here. The saving of labor in the paint department releases man-hours which can be used in the body shop. The whole system reduces the painting job to an everyday job that is accomplished in a careful, painstaking fashion.

By keeping the work spread out to fit the permanent body and paint shop crew, the use of new men unfamiliar with the layout is eliminated, as well as the disturbance of heavy peaks of work and corresponding low valleys.

The system of washing the buses as described in a previous issue of COMMERCIAL CAR JOURNAL (CCJ, January, 1951, page 56—Ed.), also contributes to the long life of the paint, and helps keep the East St. Louis City Line buses the best painted and the cleanest in the industrial district of Illinois and Missouri.

This system is so flexible that there are many ways of using it. At right, operation and maintenance expenses, in accordance with the ICC system, show all data by months, side-by-side comparison, with accumulated total (top sheet)

IF YOUR FLEET RECORDS are not arranged for convenient unit comparison, are not easy to read and understand, you'd just as well face the truth—they are going to be bypassed by employees whose business it is to use them. We learned this, and we made a correction which we believe has made our fleet records EASY TO USE.

Starting with the regular ICC system of accounts, and using its account numbers, we have added a monthly report so arranged in a single book 24 x 18 in., that we have a through-the-year, by months comparative statement on each piece of equipment. The forms we use are printed on colored stock. We use four colors: Blue, yellow, white, and pink.

The blue sheet is used for operation and maintenance expense. On this form, we carry through the entire fleet operation and maintenance for the 12-month period.

	16	minds who is a beau	-	May	rnere	Lay	OPE	pril
AMOUNT	%	ACCOUNTS	%	AMOUNT		AMOUNT %		AMOUNT %
106679.2		OPERATING REVENUES 3100 Freight Revenue—Common Carrier 3110 Freight Revenue—Contract Carrier 3120 Freight Revenue—Local Service	.10	19673.49	3100 3110 3120	4325.11	310 31 -31	3022.58
299756.	.33 2	3900 Other Operating Revenue Total Operating Revenue OPERATING EXPENSES	.30	56465.7	3900		39	
44743.0 218056.		4008 Operation and Maintenance Expenses 4100 Equipment Maint, and Garage Expense 4200 Transportation Expense 4300 Transportation Expense	.02	4292.3 40784.8	4000	1114.29 1283.80	6 40	509.04 1 241 .90
7777.	.01	4400 Sales, Tariff and Advertising Expense 4500 Incurance and Safety Expense	.007	1416.6		220.24	1	160.51
12166. 282743.	.31 2	4600 Administrative and General Expense Total Operation and Maintenance Exp.	.074	2688.0 49281.9		2618.33		1911.45
	.01	5010 Depreciation Expense 5010 Depreciation of Structures 5020 Depreciation of Revenue Equipment 5030 Depreciation of Service Cars and Equip.	.01	1812.4	500	367.03	50	367.03
27.		5040 Depreciation of Shop and Garage Equip. 5050 Depreciation of Furn. and Office Equip. 5060 Depreciation of Miscellaneous Equip.		5.5				;
		5070 Depreciation of Imp. to Leaethold Prop. 5081 Depreciation of Undistributed Property 5100 Depreciation Adjustment	0.181.0		7 07 0	1		
9217.	.01	Total Degreciation Exposes 5150 Amortization Chargeable to Operations 5151 Amortization of Carrier Operating Prop. 5155 Property Loss Chargeable to Operations	.01	1819.3	515 515 515	367.03	51 51 51	367.03
3963.	.006	Total Amort. Chargeable to Operations \$200 Operating Taxon and Licenses \$210 Casoling, Other Fuel, and Oil Taxon	.004	202.6	520	136.05	52	111.51
2199.	.003	5220 Public Utility Taxes and Licenses 5230 Real Estate and Personal Property Taxes	.002	480.6		59.80		53.29
	.001	5240 Social Security Taxes 5250 Other Taxes		143.8		22.85		17.46
7031.	.007	Total Operating Taxes and Licenses	.006	1327.1	2	218.70	-	182.26
:	:	5300 Operating Rents—Not 5310 Equipment Rents—Debit 5320 Other Operating Rents—Debit 5340 Joint Facility Rents—Debit			530	1	. 53	:
		5350 Equipment Renta—Credit 5360 Rent from Owned Land and Struc.—Cr. 5370 Sublease Rental Incore—Credit 5390 Joint Facility Rento—Credit Total Operating Seato—Net	10			1	_	
298992.	.008	Total Operating Expense Nat Operating Revenue	.021	52428.3 4037.3	2	3204.06 1121.05	$\equiv 1$	2460.74 561.84
904,4	.33	Miles Revenue Per Mile Cost Per Mile Operating Ratio	·30 ·277 92.8	189,042		12,252		11,061

System used by for-hire carrier has many advantages, is

Streamlined System Adds The yellow sheet is used for operation revenue and expenses. This

The yellow sheet is used for operation revenue and expenses. This also carries the whole operation through the 12-month period.

The white sheet is the income statement for the fleet.

The pink sheet shows the statement of assets and liabilities of the organization.

Of course, these forms can be used in other ways. For example, the blue sheet also is used to show operation and maintenance expense for each vehicle. We consider a (tractor and trailer as one unit because we pull the same trailer behind a tractor month after month).

Each time a vehicle comes into

our shop, an individual repair order is made out. Just as in a commercial shop, every job, regardless of size, must be charged to the particu-

lar piece of equipment.

To explain: Say one of the mechanics puts in an hour on a tractor, the time is reported as \$1.80 (actual wage of mechanic) and \$1,

which we figure covers miscellaneous direct and indirect expense such as taxes, insurance, supplies, depreciation, lights, water, etc., so the hour charge goes through at \$2.80, and is posted against the tractor.

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Now, when we take the blue form to report the cost on one piece of equipment, we start with the first

56

COMMERCIAL CAR JOURNAL, March, 1951

			Eay		lay	OPERA"	Tim:
TO DATE		ACCOUNTS	PERIOD S		S 132PERIOD		132-1100
		4100 Equip. Maintenance & Garage Exp.		4100	AMOUNT	4100	AMOUNT
		4110 Supervision of Garage and Shop		41		4110	
		4120 Office and Other Expense		411		4120	
14418.1		4130 Repairs to Motor	1206.84	41	260 92	4130	(30.19)
18646.3		4131 Repairs to Chassis	809.85	41	73 60	4131	313.14
3443.0		4132 Service	1592.03	41	641 82	413	69.96
00// 0		4135 Repairs to Pick Up Equip.	ate or	41		413	
7866.8		4160 Tires and Tubes—Revenue Equip. 4180 Other Shop and Garage Expense	740.91	41	137 95	416	156.13
368.6 44743.0		Total Equip, and Garage Expense	4392,33		1114 29	4180	
44/47.00	-	4200 Transportation Expense	4 176 4 22	430	1114 29	4200	509.04
		4210 Supervision of Trans.		42		4210	
452.8		4220 Office and Other Expense	.40	42		422	.40
21967.0		4230 Drivers and Helpers	3853.30	42	815 90	4230	623.70
12028.4		4250 Fuel for Revenue Equip.	2119.17	42	403 13	425	330.76
1748.9		4260 Oil for Revenue Equip.	394.01	420	64 77	426	62.04
181075.3		4270 Purchased Transportation	34389.48	42	54, 11	427	Or see.
782.8		4280 Other Transportation Exp.	28.50 40784.86	42		428	225.00
218056.3		Total Transportation fixp.	L0784.86	7	1283.80	To	1241.90
		4300 Terminal fixpense		430		4300	
		4310 Supervision		43		4310	
		4320 Office and Other Expense		43	-	432	
		4380 Other Terminal Expense		43	-	438	
-		Total Teominal Expense				To	
		4410 Supervision		410		4400	
		4420 Office and Other Expense		44		4410	
		4430 Traffic and Schedules		44	-	442	
		4450 Advertising		44		445	
		4480 Other Traffic Expense		44		448	
		Total Traffic Expense		-		Te	
	-	4500 Insurance and Safety		4504		4500	
1270.0		4510 Supervision	260.00	45		451	
1270.0		4520 Office and Other Expense	144.51	45		452	
1152.9	mage	4530 Public Liability & Property Damage	195.19	45	12 82	453	34.45
883.7		4540 Workman's Compensation	150.88	45	31 66	454	24,20
770.9		4550 Cargo Loss and Damage	78.87	45	17 30	455	12.09
3169.6		4560 Fire-Theft and Collision	585.57	45		456	89.77
8.		4570 Other Insurance Expense	1.67	45		457	
	ense	4580 Other Ins. & Safety Dept. Expense		45		458	
7777.7		Total Ins. and Safety Expense	1416.69		220 2/	Te Te	160.51
	A	4600 Administrative and General Exp.		460		4600	
6317.8		4611 Supervision	1250.00	46	27-2	461	
2825.0	Emp.	4613 Salary-Other General Office Emp.	775.00	46		461	
862.0		4621 Office and Other Expense 4622 Expense of General Office Emp.	367.58	46 46		462	
53.5	pt. c	4622 Expense of General Office Emp. 4623 Other General Office Expense	EE 05	46 46		462	
319.0		4630 Law Expense	55.95	46		462	
152.0		4635 Outside Auditing		46		463	
250.0		4640 Communication Expense	214.39	46		463	
	Q 185	4645 Employees Wolfere Expense	25.16	46		464	
110.5	- *	4660 Uncollectible Revenue	23.10	46		460	
		4670 Regulatory Expense		46		467	
		4680 Other General Expense		46		468	
12166.		Total Admin. and General Exp.	2688.68	T		Te	
282743		Total Operation and Main. Exp.	40281 06	-		7	1911.45
			7-2-70			- "	

By John S. Rice

President, Rice Truck Lines Great Falls, Montana

Records

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adaptable to most fleets

heading: 4100 Equipment, Maintenance & Garage Expense. Under this heading, entry 4110 we do not use, and we do not use 4120. These two are handled through the \$1 per hour which we add to labor cost to cover the direct and indirect shop expenses.

As for 4135, our operation is one

of petroleum transport. We have no pickups. But this was added because our plans call for adding to our organization a small dry freight operation. When this is added, we can carry through on all operation and maintenance expense with the same form and show it for the combined fleet.

Under 4200, Transportation Expense, we do not use 4210. To date, our operation is not large enough to have separate transportation supervision. Later it may be, and we will have the forms for it ready.

4270 also is not used. We purchase no transportation but if we



Author has entire company record summary before him in an 18 x 24-in. ring binder, which can cover 10 years.

Forms at left cover operating revenue and expenses. As for the forms on the preceding page, they show a two-month comparison and the accumulated total. System is patented. Sheets measure 6 x 11 in. All figures shown are abstract

were required to do so, we have the listing for this charge.

Under Terminal Expense, 4300, we have no dry freight as yet so we do not use this division.

4400—Traffic. We do have some traffic expense but it is so small that we do not care to make a breakdown on it.

4500—Insurance and Safety. We run this in with our general overhead expense. However, with a substantial growth and possibly branching out, we will need this division later.

4600—Administrative and General Expense. We do not use this on our individual truck or unit record.

Records Opened to Shop Men

WE HAVE a regular meeting every two weeks for our shop men. At this meeting, we open our large record book on the desk and show them the blue sheets for the fleet and for the individual units. These are the only figures which are pertinent to the shop men.

At the regular driver's meetings, we can show drivers the sheets for cost of repair and operation without going into the records on rates. The cost data are so easily understandable that practically no explanation is needed.

Another advantage of the system is the ease with which the quarterly and annual reports required by ICC

(TURN TO NEXT PACE, PLEASE)

COMMERCIAL CAR JOURNAL, March, 1951

Streamlined System Adds Savvy . . .

Continued from Page 57

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O O	0	0 0 Way, 194	0.		0		O O O O O O		0 0		00	_	00
PERIOD	No.	PERIOD		Pili	RIGO		ACCOUNTS	II JUE	TO DATE		TO BATE		TO BATE
AMOUNT	6	THUOMA	9	AMOUNT	T	4		4	AMOUNT	9	AMOURT	•	AMOUNT
	-	-	-	/	-		GARRIER OPERATING INCOME	-		-			
324,002.98	100.00	ċ27,898.24	100,00	25,186.	.26	100.00	3000 Operating Revenues	100,00	\$121,399.54	130.00	126,947.86	100.00	154,992.30
			-		-	-	Expenses	-		-			
18,117.58		19.351.80		19,224.			4000 Operation and Maintenance Expenses	79.0	95,937.18	74.6	94,732.30	75.9	117,446.08
788.20	3.3	788.20	2.8	788.	.20	3.1	5000 Depreciation Expense 5100 Amortization Chargesble to Operations	3.2	3,936.04	2.1	2,700.50	2.1	
2,378.70		2,394.04	8.6	2,297.			5200 Operating Taxes and Licenses	9.8	11,930.54	10.0	12,633.30	10.1	15,654.66
170.00	.7	198.00	.7	223.	.00	.9	5300 Operating Rents—Nat	.9	931,00	.2	200.00	.2	276,60
							Total Expenses	92.9	112,734,76		110,266.10	88.3	136,617.94
2,548.50	10.5	5,166.20	18.5	2,652.	.78	10.5	Not Operating Revenue	7.1	8,664.78	13.1	16,681.76	11.7	18,374.36
			-		_		5400 Rent for Lesse of Carrier Prop.—Dabit 5500 Inc. from Lesse of Carrier Prop.—Credit					-	
2,548.50	10.5	5,166.20	18.5	2,652.	.78	10.5	Net Carrier Operating Income	7.1	8,664,78	13.1	16,681.76	11.7	18,374.36
* .	-				-			1		-			
							OTHER INCOME						
23.90	.1	48.12	,2	46.	-44	2	6000 Net Income from Non-Carrier Operations 6100 Net Income from Non-Operating Prop.		137.72	3	333.20	2	422.90
					1		6200 Interest Income			-		-	
		-	_	-	1		6300 Dividend Income				27.00		27.00
	-						6400 Income from Sinking and Other Funds 6500 Other Non-Operating Income		37.42			-	
23.90	: .1	48.12	.2	46.	-44	.2	Total Other Income	.1	175.14	3	360.20	.2	449.90
2,572.40	10.6	5,214,32	18.7	2,699.	.22	10.7	Com Insura	7.2	8,839,92	13.4	17,041.96	11.0	18,824.26
					_		INCOME DEDUCTIONS					-	
							7000 Interest on Long-Yerm Obligations						h.
	-		_		_		7100 Other Interest Deductions 7200 Taxes Assumed on Interest	1				-	90.00
							7300 Amertication of Debt Disc. & Expense			-			
			-		-		7400 Ameritsetion of Prem, on Debt—Credit 7500 Other Deductions			-		-	
							Total Income Deductions						90.00
2,572,40	10.6	5,214,32	18 2	2,699.	22	10.7	Hat Income Before Income Yangs	7.2	8,839,92	12.4	17,041.96	32.0	
5.2(5.40)	- Parker	1,616,52						112	9.034.42	42.4	41,041,96	11.9	18.734.26
			-	-	1			+					
-													
					1								
	-									-		-	
					1							-	
			-									-	
					-			1				-	
			•	_			Nechacken Bros. Notor Preight						

This illustration shows how comparisons may be made by months (left side) and by years (right side). This set of forms, supplied by Charles R. Hadley Co., its manufacturers, are from McCracken Bros. Motor Freight, mentioned by the author

can be prepared merely by copying the necessary figures from the corresponding set of financial reports to the Commission's report forms. This also applies to the reports required by the state public utility commission.

So far as we can see, this form of record keeping is just as applicable to the dry freight operator as to the oil transport. We worked out our own forms and used forms being used by McCracken Brothers at

Eugene, Oregon, general freight carriers, for our samples. (A set of these is shown on page 58—Ed.) So far as we know there are no other operators in the Northwest using this combination of the ICC and the monthly sheet systems.

At present, we have 24 over the road units consisting of a diesel-powered tractor with dual rating and a trailer, with a combined 70,000-lb capacity. We have 50 drivers, two to each unit. Our shop operates

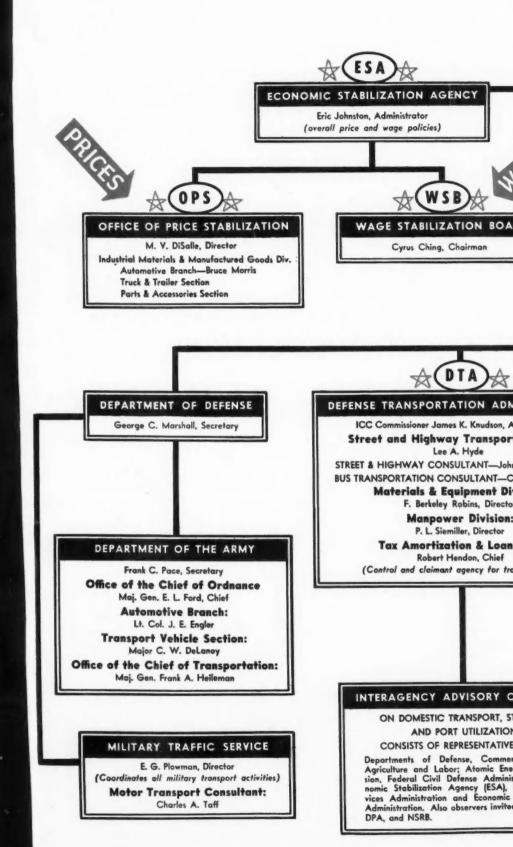
with one superintendent, four master mechanics, and three servicemen.

With this streamlined cost accounting system, we can put out on the table a single month's record for a unit or for the fleet, or a year's record for both, or compare year by year.

From our short experience with this system, we have found that it makes the truck which is not operating properly show up like a sore thumb.

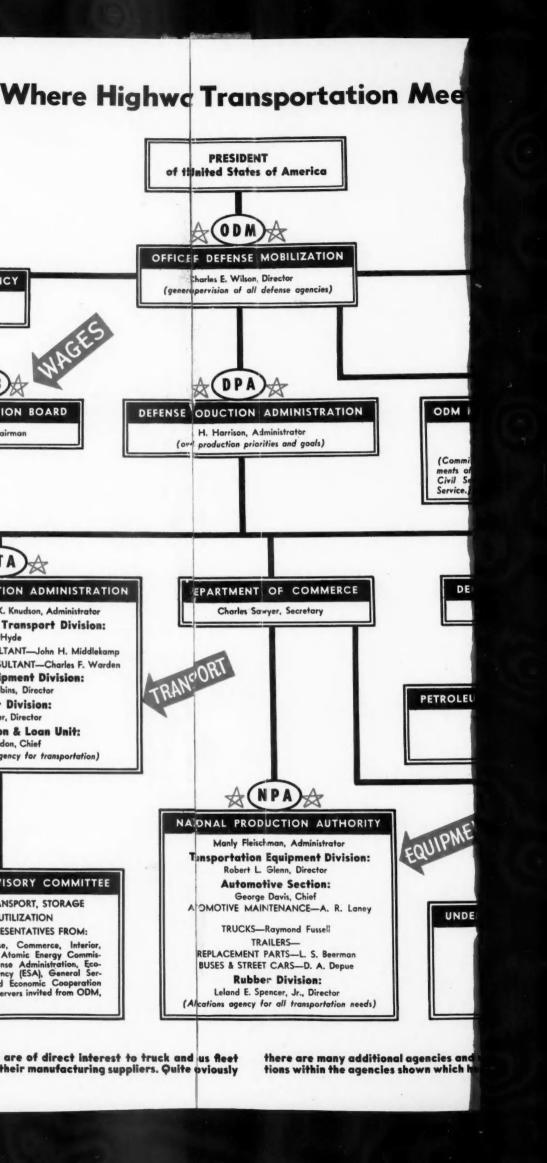


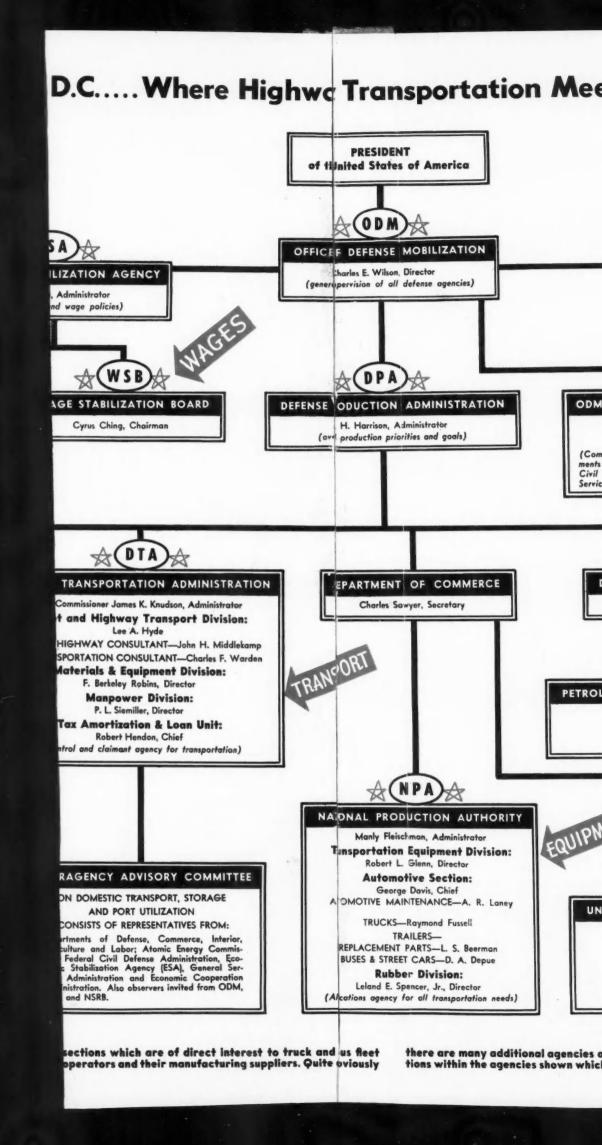
WASHINGTON 25, D.C.... Whe



EDITORS' NOTE: In the above chart, every attempt has been made to include key mobilization agencies and key subsidiary

sections which are of doperators and their man





Meets Mobilization Bureaucracy



DEFENSE MOBILIZATION BOARD

Director of ODM, Chairman. Secretaries of Treasury, Defense, Commerce. Interior, Agriculture and Labor. Administrators of Defense Production Administration and Economic Stabilization Agency Chairman of RFC, NSRB and board of governors, Federal Reserve System.

ODM MANPOWER POLICY COMMITTEE

Arthur S. Flemming, Chairman (Assistant to ODM Director)

(Committee consists of representatives from Departments of Defense, Agriculture and Labor; DPA, WSB, Civil Service Commission and Director of Selective Service.)

DEPARTMENT OF LABOR

Maurice Tobin, Secretary

Office of Defense Manpower

Robert C. Goodwin, Exec. Director (Formulates plans and programs and utilizes public employment system for meeting defense and essential civilian labor requirements)

DEPARTMENT OF THE INTERIOR

Oscar Chapman, Secretary



PETROLEUM ADMINISTRATION FOR DEFENSE

Bruce K. Brown, Deputy Administrator

Supply and Transportation:

Dean B. Hodges, Director

PEROLEUM

FINANCIAL AGENCIES

Federal Reserve Board T. B. McCabe, Chairman

Reconstruction Finance Corp. (RFC) W. E. Harber, Chairman

General Services Administration (GSA)

Jess Larson, Administrator

FINANCE

Corrected to February

Corrected to February 20, 1951 Copyright 1951 by

COMMERCIAL CAR JOURNAL

UNDERSECRETARY FOR TRANSPORTATION

Maj. Gen. Philip B. Fleming Civil Aeronautics Administration Civil Aeronautics Board

Bureau of Public Roads

Federal Maritime Board
Maritime Administration
Inland Waterways Corporation

gencies and many additional secown which have no direct interest

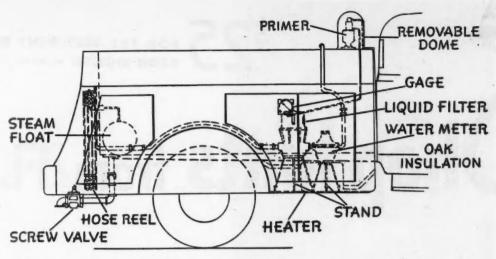
QUIPMEN

to the fleetman. For the sake of simplicity, these have not been shown. Address of all agencies: Washington 25, D. C.



Where Highway Transportation Meets Mobilization Bureaucracy

A SPECIAL CCJ GUIDE TO WASHINGTON



Siphoning and storage facilities are built on a 2-ton truck used to take water from catch basins of gas mains. Construction costs, \$5000

Home-Made Drip Truck Speeds Gas Main Servicing

Self-contained drip truck syphons water from catch basins of gas lines and stores it for disposal

By J. L. Coyne

Supt. of Transportation

Rochester Gas and Electric Corp.

ALTHOUGH gas mains are equipped with drips or catch basins to catch the water that forms through condensation, it is often a tedious task to drain these drips. As far as I know, standard drip truck units are not available.

Accordingly our engineers set out to design a unit that would effectively remove the water by sucking it into a compartment on a truck so that it could be emptied into a storage tank and disposed of. The tank fabrication was completed and mounted by the Niagara Heil Body Co., of Buffalo, N. Y.

This unit was built on a 2-ton truck with 137 in. wheelbase. The drip truck is complete with storage tank, automatic rewind hose reel, water

meter, liquid filter and heater (copper exhaust muffler).

The drip truck is equipped with a vacuum booster port, which is connected on the top and to the front of tank. In the booster port, is a flame arrester which is connected by copper tubing to the carburetor of the motor. The flame arrester which is part of the vacuum primer contains a 1000 mesh screen to catch any flare-back from the carburetor. It breaks the spark into very small particles, preventing the possible chance of fire.

The vacuum primer is connected on the top and to the front of the tank. There is a 30-in, vacuum and 15 lb pressure per square inch. A vacuum gage is in the compartment on the right side and to the front of the tank. The vacuum primer is connected to the gage by copper tubing. The vacuum primer draws the air out of the tank, thereby forming a suction.

The operator with the truck arrives at the drip from which he is to pump the water. He will connect the 1-in. armored hose, which is on a reel in rear compartment of tank, to the valve on the rear end of the truck. He opens the valve allowing the water to be sucked into the tank.

The water first passes through a filter to catch all foreign particles and then through a water meter. The filter and water meters are in the right side compartment of tank and are heated by a copper exhaust muffler in the bottom of compartment. The water than flows into tank. There is a float in the rear end of the tank with gage, showing when tank is full.

The water is then emptied into a storage tank through a 2-in. drain on the underside to the rear of drip tank.

Here is a breakdown of the construction costs:

Chassis & Cab	\$1700
Tank-mounted in prime	2250
Painting & transportation	
Liquid Filter, with 60 mesh stainless	
steel liquid filter	
Boiler Feed Water Meter	
Duraguage, 41/2" dial-type 1079 BC	
iron case, 1/4" lower conn., 30"	
mercury vacuum to psi	30
American Steam Pump Co. Type K	
Primer	100
Steam Float (5" sphere)	50
Piping, valves & miscellaneous fit-	
tings and labor to install above	
Total Cost	\$5000

\$25 FOR THE BEST HINT PUBLISHED EACH MONTH . . .

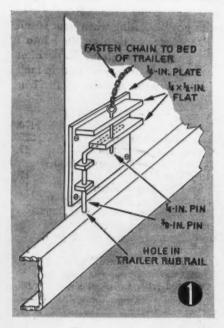
Shop hints from FLEET

1. Door Fastener

by Joel L. Crupper Crupper Transport Co. Hutchinson, Kan.

Here is a side door or tail gate fastener that has proved both sturdy and safe in our operation. The diagram will serve to show construction details and dimensions.

This fastener climinates the trouble of lost pins and also insures that the pin is held fast in either open or closed positions. The pin can be raised high enough to clear the rub rail but cannot be removed from the assembly. This assembly can be used in any position—either vertical or reversed.



2. De-Greasing Tank

by Ray Diefendorf Dohrn Transfer Co. Galesburg, III.

The accompanying sketch will show construction details of a degreasing tank we made in our shop. While there are many such tanks in use today, let me call attention to some features that make this development especially convenient and easy to build.

The tank is made from \(^1\)4-in. sheet steel and rests on projections of its sides, leaving both ends open to provide for air for the gas burners. Uprights are \(^1\)4 x 2-in. angle irons with gusset plates welded to the apex of the structure. A trolley track is suspended from the supports and is long enough that the chain hoist can be brought out to pick up heavy engines or assemblies directly from the floor. A drain valve in the end of the tank makes for easy draining.

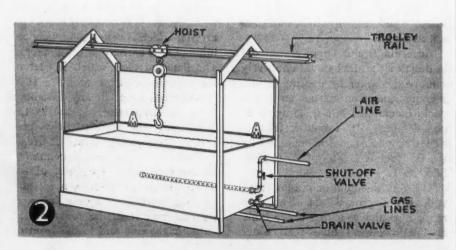
The grate which holds the parts off

the bottom of the tank, is made from sections of 3/16 x 2-in. angle iron, welded to two supports made from 3/16 x 1-in. angle iron. A metal lid is provided to conserve heat and to keep down splash.

3. Drill Holder

by F. P. Coulomb Inglewood, Cal.

This home-made clamp permits an electric drill to be held securely in a vise so that it can be used for a grinder, buffer, polisher, or for certain drilling operations. Dimensions will vary with the size and type of drill to be used. The sides are made from 4-in. sheet steel, welded in a V as shown. The support is ½-in. steel of sufficient dimension to meet the jaws of the vise. Clamps are made from ½-in. bolts bent to fit around the body of the drill and fitted with winged nuts for convenience in adjusting.



\$5 FOR ALL HINTS PUBLISHED EACH MONTH

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4. Oil Saver

by E. W. Nagel International Harvester Co. Long Beach, Cal.

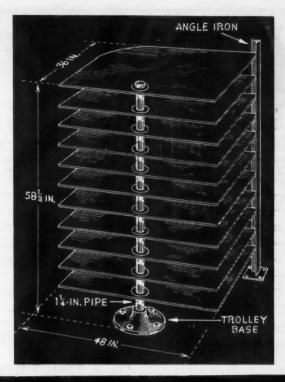
We have thrown lots of good oil away, (and I am sure many others have), when quart cans are hurriedly dumped into the crankcase and not left to drain. Here is the way we save enough for a change of oil in one car every two weeks.

Support a 2½ x 2½-in. angle iron on pipe legs as shown. Arrange the angle iron trough with one end lower than the other and brace.

5. Hydrometer Protection

by Henry Joseph Gardnerville, Pa.

Hydrometer breakage may be kept to the minimum with the aid of a few rubber washers from a garden hose. Pull off the filler hose, space three or four washers along the outside of the glass barrel.



\$25 Hint of the Month

GASKET RACK

by R. Wright, The Cincinnati Street Railway Co., Cincinnati, Ohio

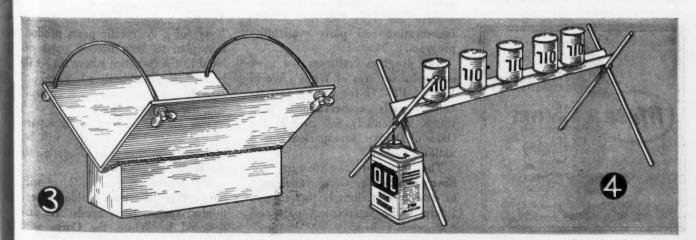
Here is a streamlined version of the horizontal swing shelves designed in this bus maintenance shop for the handy storage of gaskets. This drawing will show in general what can be worked up in the shop with odd piping, ply wood, angle iron and a base.

The shelves are made from ¼-in. plywood 48 x 36 in., with one corner rounded to facilitate turning. Each is drilled to take a 1¼-in. shaft which is set in an old trolley base or something suitable. Shelves are separated and held in position with sections of tubing cut to 4¾-in. lengths

and fitted over the center shaft support. An angle iron is positioned at the corner of the shelves, in such a position that the corners swing against it to align the shelves when pushed into place.

A brace is used to hold the

A brace is used to hold the shelf section firmly, and a locking arrangement can be incorporated to hold the shelves in a closed position if desired. This feature is not shown. Height of this section is 58½ in., though shelves can be added or removed to suit the convenience of the individual shop.



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FIG. 1. Service Requirement analysis form which will establish parts needs



FIG. 2. White field service manager W. J. Cumming, applies a windshield decal on truck enrolled in the ESC plan. The sticker, printed in red and blue, is reproduced in FIG. 3, below



White's EMERGENCY

THE WHITE MOTOR CO. has "mobilized" its service and parts operations to keep White Trucks and Buses in efficient operation during the present national emergency. Essentially, it has developed a comprehensive and very thorough vehicle conservation and parts availability program.

The program embraces the most successful features of White's World War II PM-PC (preventive maintenance, parts conservation) plan which, incidentally, was used by the Office of Defense Transportation as a national pattern.

The principal new feature, the Emergency Service Corps, is designed to determine accurately present and future White replacement part and component unit needs by "drafting"

the personnel of the company's more than 500 outlets. This "Corps" will, among other things, personally survey and estimate the parts requirement for every White vehicle in use regardless of its age or condition. The data compiled will be the "backbone" of a systematic parts production plan to keep needed parts on hand in the localities where they will be used, eliminating time loss and delays due to shipments from centralized warehousing points.

This survey, and all services part of the entire ESC program, will be made without charge or obligation to the White vehicle owner.

The Emergency Service Corps will have other functions besides determining vehicle parts needs. As announced by White, the Corps will



FIG. 4. White's vice president, J. N. Bauman explains 10-point program

White's 10-Point ESC Program

- Registration of all White Trucks and Buses operating in the United States.
- Attachment of new "quick reference" metal identification tag for each White vehicle.
- 3. Establishment of an emergency parts location system to handle "truck down" requirements, through a nation-wide service network. A Service Directory, showing location of cooperating White Service Stations, will be furnished.
- Special customer emergency parts order forms.
- Monthy ESC parts conservation bulletins and parts salvage data mailed directly to vehicle owners.
- Monthly ESC basic maintenance bulletins mailed directly to vehicle owners.
- 7. Unit exchange plan.
- 8. Driver training program.
- Availability of complete service facilities and training of skilled personnel to make "factory standard" repairs.
- Detailed preventive maintenance programs adaptable to small and large fleet operators.

Service Program Stresses Parts Availability

ESC plan embraces 10 user service features. Field staff will survey user parts needs to insure supply and material allotments CHASSIE MODEL SPRIAL

MODEL LOT

ENGINE

TRANS.

AUX.TRANS.

REAR AXLE

FRONT AXLE

FIG. 5. Metal identification plate to be attached to every White vehicle

operate under the 10-point program outlined in the upper right-hand corner of this page.

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Registration Procedure

THE first and most important job assigned to the White Emergency Service Corps is the registering of all White automotive equipment currently in use. This will be handled by the White field personnel on the form shown on Fig. 1. The data will show the serial and model numbers of every vehicle, its age, accumulated mileage, present condition, and so

on. This data will be cataloged and tied-in with the factory inventory control system which, in turn, will be coordinated with the factory branches, distributors, dealers or service stations in the area in which the vehicle is operating.

The data will be collected in triplicate, with a copy for the customer, a copy for the local dealer or service organization, and a copy for the factory headquarters in Cleveland. The data will be used for (a) the preparation of the ESC Identification Tag shown in Fig. 5; (b) determining

exact parts requirements to keep the registered vehicles supplied with needed replacements; (c) determining parts production requirements, and an exact presentation to the proper governmental agencies of White's material requirements.

ESC Identification Tag

E ACH registered White vehicle will carry the ESC metal identification plate shown in Fig. 5. This "dog tag" will show all data necessary for identifying the vehicle and ordering its (TURN TO PAGE 112, PLEASE)

COMMERCIAL CAR JOURNAL, March, 1951

Five Fire

Atlantic City Fire Department builds three





ABOVE. Chief Farley, Dir. Cuthbert get first-hand explanation of working details of first pumper-hose wagon from Tom Campbell. BELOW. Start of work was hampered by shortages. Salvaged pump mounted behind cab



LEFT. Tom Campbell, master mechanic and auxiliary fireman, works alone as other mechanics are taken off new job for regular maintenance work

BELOW. A general view of body frame work and base for the superstructure



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COMMERCIAL CAR JOURNAL, March, 1951

Trucks for the Price of One

modern pumper-hose wagons and two 85-ft aerial ladders during spare time for \$35,000

By A. W. Greene, Managing Editor, Commercial Car Journal

ATLANTIC CITY, N. J., is about to acquire five modern fire-fighting vehicles for the price of one—and this as quoted at 1949 prices. Three of these vehicles already are in service; the fourth is nearing completion; the chassis and most parts for the fifth are on hand, ready and waiting.

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general frame

rch, 1951

It's only a question of time, and Tom Campbell, Master Mechanic (of a caliber which soon will be extinct) of the city's fire department will keep his promise to Director of Safety William Cuthbert, Fire Chief "Rex" Farley, the city commissioners who make with the budgets, and the tax payers, to rehabilitate the fleet.

Project Started in 1949

IT ALL started in the fall of 1949, when a desperate stop-gap attempt was being made by the Fire Department to include enough money in the budget to replace at least one or two of the city's oldest pieces of fire fighting equipment—some of which had been in service for 25 years. During that year there had been several very (TURN TO PAGE 116, PLEASE)



LEFT. Because high-pressure pumper salvaged from old vehicle was narrower than new body, recess was provided. Declutch lever is on running board

BELOW, Left. Rear view of finished hose wagon, showing 1½-in. hose tray raised to permit access to 2½-in. hose

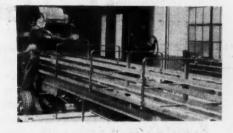
BELOW, Right. Superstructure of the first aerial ladder attempted by shop

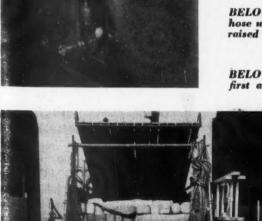




ABOVE. Mechanics Edward Erdman and Jim Brennan, caught up with regular maintenance, work on new ladder truck's steel superstructure

BELOW. The tillerman's seat is installed, as vehicle nears completion



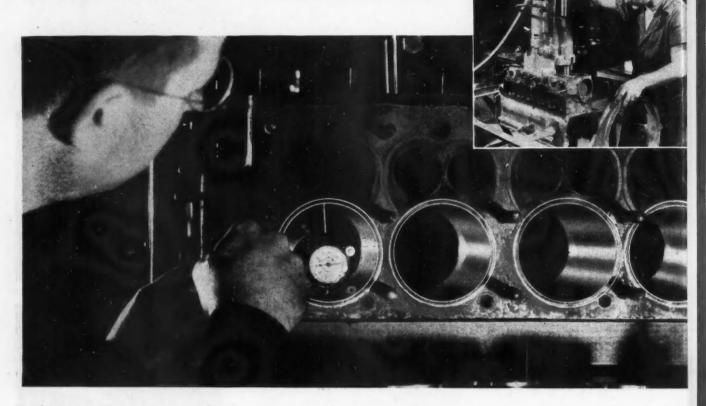




COMMERCIAL CAR JOURNAL, March, 1951

BELOW. Warped cylinder walls cause piston seizures with attendant sleeve breakage. A multiple point dial gage should be used to check for distortion

RIGHT. Good boring equipment is a must for satisfactory work. Tools must be sharpened and reset between holes for uniform sleeve fitting



PRECISION OVERHAUL

Liquidates Dry Sleeve Problems

Repair of dry sleeve engines requires good tools and complete knowledge of service problems. Here are timely tips on measuring, boring, fitting IHC and GMC sleeves

> By Don Smith Denver, Colo.

FOR the past several years, many shops have experienced difficulty in performing satisfactory repair jobs on dry sleeved engines, especially I.H.C. gasoline and G.M.C. Diesel. During the same period, jobbers have replaced countless thousands of dollars worth of material on failures that were not the fault of the material—but rather were the result of lack of proper repair equipment and/or incomplete knowledge of service problems. The most common complaints have been piston seizures with

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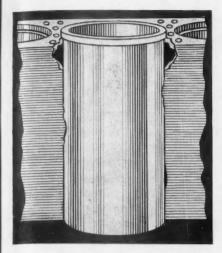
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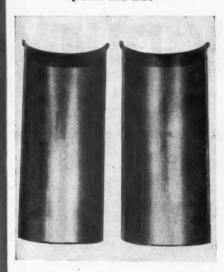
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Exaggerated cut-away view of block shows distortion of sleeve caused by pushing in of block. Air spaces be-tween block and sleeve cause local hot spot and resultant warpage

Here is what happens when measure-ments are sloppy. This scuffing is a result of insufficint clearance between piston and wall



attendant sleeve breakage-unsatisfactory piston ring life—and burned valves.

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The following is devoted to the more controversial and least understood theories and practices now being followed by the most successful shop men. Some of these basic facts

1. Piston rings must operate against round cylinder walls to be effective. If cylinder walls are warped or distorted, piston rings cannot seat. This becomes more important when

it is realized that a large portion of the blocks in the foregoing mentioned dry sleeved engines are warped and distorted by the time of the first overhaul.

2. Block distortion is seldom found with a two point inside micrometer. It is easily discovered with a multiple point dail gauge. All successful shops "mike" blocks after old sleeves have been removed and with all block studs properly torqued to recommended pressures—using a 3 point dial gauge. If block is distorted .0025 or more, corrective measures are applied before installation of new sleeves, otherwise the inside diameter of the new sleeve is distorted from block contact and cannot furnish piston rings with a round seat.

3. Block distortion causes piston seizures. There is no doubt on this point when it is realized that some pistons fit with as little as .004 clearance between piston and sleeve. That is about the thickness of two fine hairs. The clearance is provided to allow the piston to run free after heat has expanded the piston metal. If a distorted block uses half the clearance, the chances are that piston and sleeve will bind.

4. Block distortion causes valve failures. Warped blocks frequently distort valve seats and throw valve guides out of line. If the seat is distorted, the way has been opened for fire in the combustion chamber to start a failure through "blow-by." If valve guides do not allow free valve action, sticking valves fail to seat and start to burn.

Fuel Mixtures

FXTREME importance is attached to the subject of fuel mixtures. Liquid fuel and air are mixed to support combustion that supplies power to drive pistons. The proper proportion of each produces maximum power with minimum fuel consumption. If the mixture is "leaned down' by the addition of too much air, heat increases just as a welding flame grows hotter when additional oxygen is fed to the tip. If the mixture becomes too "lean," any savings in fuel consumption is lost in repair bills caused by the excessive heat. On the other side, too much fuel and too little air causes sludging, carbon, crankcase dilution and high fuel consumption. Fuel mixtures must be right.

More successful shops are paying increasing attention to heat dissipation. Heat must be properly dissipated for good engine performance.

Engine "Break-in"

A LMOST all shops report that "seating" or "breaking in" of piston rings has presented new problems as modern detergent oils have become more widely accepted. Reports agree that most of the newer detergent oils form a better lubricating film than oils previously used. This lubrication apparently minimizes the metal to metal contact formerly employed to seat rings, and consequently it has become more and more difficult to accomplish the seating with a usual short break-in period. Most shops also agree that rings do not complete their seating action after an engine is placed under load.

Manufacturers have introduced a number of innovations to assist in overcoming ring seating difficulties, but information has been slow in getting to the field. As a result, many shops have unknowingly destroyed the very features meant to contribute to long ring life. Such was the history of the honed criss-cross finish for the inside of cylinder sleeves. Engine manufacturers used this rough finish in new engines for years, but parts manufacturers were reluctant to supply the same finish in repair parts in the face of industry advertising about the value of "super-smooth" cylinder walls. Finally a leading manufacturer pioneered the way by offering sleeves to the repair trade with the same inside finish as those supplied to engine manufacturers. Reactions from the field were as expected. The more progressive shops immediately found the value of the rough finish in better ring seating and adopted the feature. Others encountering the natural questions of a customer who saw the finish before the head was installed on his engine, used finishing hone stones to smooth the walls, and failed to

(TURN TO PAGE 126, PLEASE)



THE NEW heavy-duty line for '51 announced by Diamond T covers the field from 3 to 10 tons with Models 660, 720, 722, 920, 921, and 921R for which many special options have been added. A new air intake system, a reduction of overall length, new and improved cabs, and one-piece windshields mark only some of the improvements to the line.

These models now carry the new Diamond T full-vision safety steel cab designed for driver comfort and convenience. It is 69 in. in width, with double wall construction of heavy gage steel, die-formed and welded. Windshield is a single full-width sheet of curved laminated safety plate glass. The two large rear windows are of safety plate glass and door windows are two-piece, with stainless steel divider and chrome-plated moldings. Front section acts as "flipper-type" ventilating wing.

Individual cab seats and back cushions have full Marshall springs and employ a four-layer cushion top construction with foam-rubber seat pads. Two rubber - cushioned armrests, dome-light, insulated floor mat, aluminum kick plates on doors and two sun visors complete the standard equipment.

The "Quick-Detachable" fenders are now held in place by six bolts only. In addition, fenders are dieformed with a deep valley at the inner mounting edge so that lifting of hood side is all that is required for a large share of routine engine adjustments.

Diamond T Rounds Out

HEAVY-DUTY

Curved one-piece windshields, improved cabs, more

New Intake System

FOR Model 660 and 720 Series a new and improved air intake system has been developed. The new design provides an air-duct running lengthwise of the hood, with intake louvres at the top, and two large oilbath air-cleaners are employed for free air-flow without constriction. An adjustable plate at the side of the duct permits of "tempering" with warmer air from under the hood if desired in cold-weather operation.

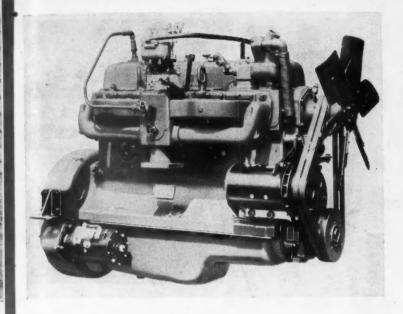
The front axle has been relocated slightly farther forward, resulting in an increase of $2\frac{1}{4}$ in. in wheelbase for the same C-A dimensions. Bumper to front axle has been reduced by 5 in., so that overall dimensions are $2\frac{3}{4}$ in. less than before. The 920 Series models continue with $11\frac{1}{2}$ -in. longer hood than for the 660 and 720 Series, and with an extra $\frac{1}{2}$ -in. in C-A to maintain the same series of

wheelbases. improved ride, better distribution of weight and easier steering of the new line is said to result.

The pilot Model 720, with 157-in. wheelbase, 10.00-20 tires and Budd wheels has a total weight of only 8800 lb, including cab. For Model 660 with hydraulic brakes, the 133-in. wheelbase tractor with standard axle figures to weigh only 8000 lb, and only 3300 lb at the rear.

Power Upped 15%

A FEATURE of the volume production 660-720 Series is the new, improved, 162 hp Diamond T. Continental T6427 engine. With the new duplex carburetor and manifold, and the new larger sodium-filled exhaust valves, the power output has been increased by more than 15 per cent at the same time that economy has been improved. Seven main bearings which support a rigid crankshaft and twelve





ABOVE LEFT. The 162-hp Diamond T Continental engine which powers the 660-720 series has new duplex carburetor, sodium-cooled valves, seven bearing crankshaft. Power has been upped over 15 per cent

ABOVE. Adjustable cab seats have Marshall springs and foam rubber cushions finished in calf-grained vinylplastic

BELOW. Variable-rate rear springs on Model 660 and 720 provide for shortening and stiffening of spring action as load is increased

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powerful engines characterize new models

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integral counterbalances which lighten the bearing load.

As a successor to Model 650T, Model 660 rates as the volume leader of the new heavy-duty line. It is designed exclusively for the tractor-trailer highway service to handle trailer loads to 50,000 lb GCW, whereas the 720 Series is designed for normal truck work. A wide range of axle and transmission options provide a maximum of flexibility to match every type of service.

For tractor-trailer service (Model 722) and dump work, logging and off-highway service (Model 722H), the combinaiton of a power plant of unusual size and ability with a choice of wheelbases, axles, transmissions and tires permits of accurately matching the exact requirements of practically any operation within its capacity rating. The overall appearance of the 920 Series is similar to the

Condensed Specifications

	660	720 & 720H	722 & 722 H	920	921	921R
lominal ayload						
ating	3 tons	3-6 tons	3-6 tons	71/2-10 tons	71/2 tons	71/2-10 tons
VW	23,000	25-30,000	25-30,000	33,000	28,000	30-36,000
CW	50.000	50,000	50,000	65,000	55,000	60,000
ngine	Continental	Continental	Hercules	Continental	Cummins	Cummins
	T6427	T6427	TDXB	R6572	HB-600	HRBB
HP	162 @	162 @	162 @	190 @	150 @	175 @
	2700 rpm	2700 rpm	2600 tpm	2600 rpm	1800 rpm	2000 rpm.

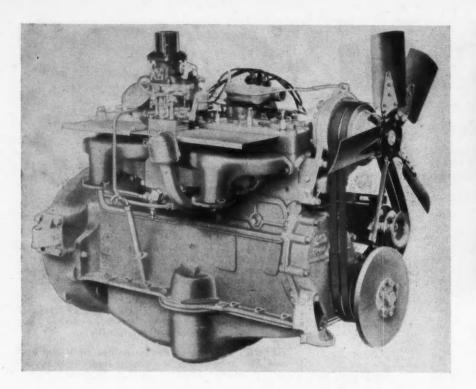
720 Series, except for its more massive appearance and longer hood length. In order to allow for the larger and more powerful engines, the hood has been lengthened 11½ in.

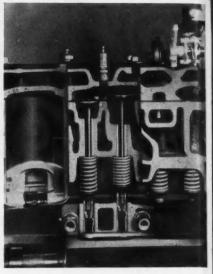
The 921 with the Cummins HB600 engine is one of the lightest diesel tractors built. Equipped with the Spicer 6253 synchro-mesh transmission, Eaton 2-speed axle and Diamond T's variable-rate rear springs, the 921 is limited to one type of operation — highway tractor - trailer

service in relatively flat or moderately rolling country where neither extreme speed nor maximum loads are involved.

Standard engine of Model 921R is now the new Cummins HRBB, which provides 10 more horsepower and 200 rpm higher engine speed than the HRB engine which it supersedes. With its 175-hp engine governed at 2000 rpm, Model 921R offers a substantial gain in either power or speed, depending on choice of axle ratio.

COMMERCIAL CAR JOURNAL, March, 1951





ABOVE. Lift of intake valve has been increased to improve flow of mixture. Hydraulic lifters with sodium-cooled exhaust valves are used in new engine LEFT. View of right side of Mustang

WHITE'S NEW Mustang

Ups Power and Economy

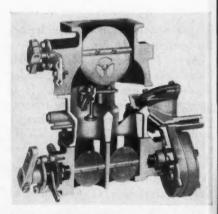
New 150 hp engine features redesigned combustion chamber, high compression, dual manifolding

IMPROVED power with substantial weight savings and fuel economy have been designed into the new Mustang engine just announced by The White Motor Co. Developing 150 hp at a compression ratio of 63/4 to 1, this addition to the White line features improved combustion principles with new intake and exhaust manifolding, a redesigned dual throat carburetor, improved valving and better cooling.

The Mustang develops 6¾ hp for each pound of weight on regular grade gasoline. High horsepower output is accomplished through sev-

eral changes in the combustion system. Design of the combustion chamber provides for a large volume directly over the valves to improve efficiency and to control detonation. Dome head shaped pistons are used with the higher compression head. Equipped with two compression and two oil rings, pistons are of low expansion alloy with a ni-resist insert to lengthen life and reduce scuffing.

Metered intake manifolding provides for individual ducting for each cylinder. The riser and distributing zone of the manifold are waterjacketed to provide uniform tempera-



New duplex carburetor features two venturi—one for each set of three cylinders

ture of the incoming mixture. A dual exhaust manifold system reduces back pressure. This "twin jet" system is said to reduce the concentration of heat at any one point and to increase manifold life. Strap flanges at juncturn to page 136, please)

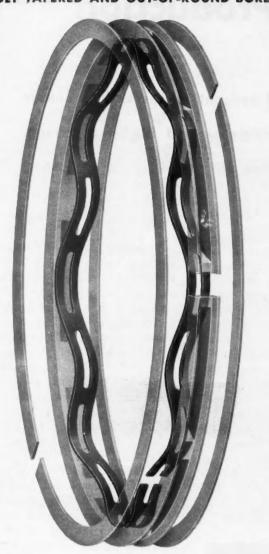
COMMERCIAL CAR JOURNAL, March, 1951

Sealed Power

MD-50 STEEL OIL RING

The only ring with the FULL-FLOW SPRING

BEST FOR OIL CONTROL EVEN IN
BADLY TAPERED AND OUT-OF-ROUND BORES



Sealed Power

CHROME-FACED RINGS

for triple mileage

LATEST SCIENTIFIC DEVELOPMENT TO FIGHT HEAT, FRICTION, CORROSION, ABRASION



Hailed as masterpieces by good mechanics



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1951

SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW TRUCKS

BEST IN OLD TRUCKS

Trailer Builders

Blueprint For Production



At TTMA's annual convention, discussions center on production problems and highway usage.

Greater cooperation with fleet operators urged

CHANCES are good that few fleet operators have any real knowledge of the Truck Trailer Manufacturers Association. Thus, for them, the most interesting developments at the association's recent annual meeting at Edgewater Park, Miss., was the announcement of 13 new trailer manufacturing members including the Trailmobile Co. of Cincinnati, Brown Trailers, Inc., of Spokane and Toledo, and Brown Equipment & Mfg. Co. of New York. With its new additions, the association now has a total of 58 trailer manufacturing members representing more than 90 per cent of the nation's trailer out-

put, and 49 associate members representing many of its suppliers.

Small and closely knit, the association serves a vital function during normal times. But for the duration of the present emergency, its principal purpose will be to unite its own members in cooperation with the government agencies and suppliers to produce the trailers that fleet operators will need. Readers will recall that TTMA has already produced a survey, filed jointly with the ATA study before the Defense Transportation Administration, calling for an output of approximately 90,000 trailers during the current year.

Typical of the association's interests were the five principal speakers at the annual convention. The first was an informal interview with George R. Davis of the Transportation Equipment Division of the National Production Authority. During the interview it became apparent that there was a real desire for cooperation in both directions and Mr. Davis urged that the trailer builders select a man-one of their best-to serve as an NPA staff member to head a trailer section. (At press time, E. J. Lucas of Kingham Trailer So. had been nominated.) Mr. Davis also assured his audience that NPA would do what it could to get supplies but warned that trailer needs must be considered in the light of all other demands on the national economy. Even as he spoke, the order came out prohibiting the use of nickel for ornamentation and restricting its use in many other products.

Highway Difficulties

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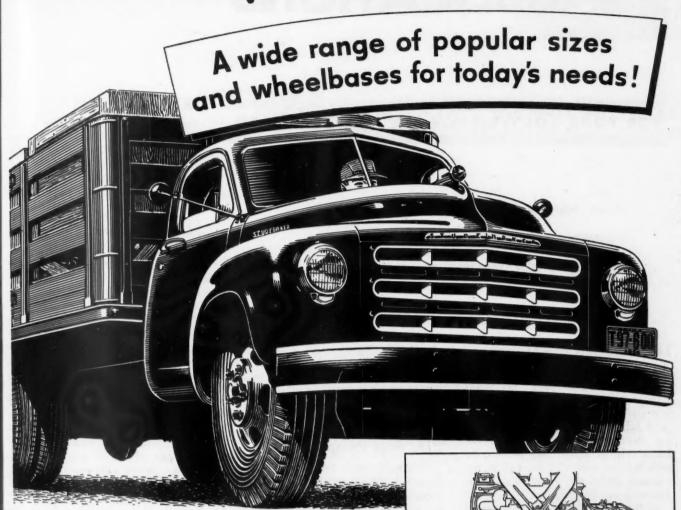
NEXT came a talk by Allen Wagner,
public relations director of the
American Road Builders Assn. In
sharp contrast to the all-too-frequent
disputes between highway officials
and highway users, Mr. Wagner's
remark descended on welcome ears.
For he urged that our highways,
slightly better than one-third as well
prepared to shoulder arms now as
at the beginning of World War II,
must continually be improved. "To

(TURN TO PAGE 98, PLEASE)



At a convention "coffee stop," TTMA's President L. C. Allman (left) discusses program notes with ATA President Leland James, a principal speaker

Save gas...save repair costs... with a husky Studebaker truck!



What a wealth of features, too!

Big visibility cab with plenty of head room and leg room for comfort . . . Fully enclosed safety steps . . . Adjustable seat with "finger-tip" control . . . Adjusto-Air seat cushion . . . Two footcontrolled floor ventilators . . . Two built-in window wings . . . Dual windshield wipers . . . Two arm rests and sun visors . . . Cab light with hand and automatic door switches . . . Rheostat controlled instrument lights . . . Automatic "hold-open" door stops . . . Tight-gripping rotary door latches . . . Metal-lined door panels . . . Metal dash compartment . . . Automatic spark control and gasoline knock eliminator . . . Extra strong K-member front frame reinforcement . . . Full box-section cross members . . . Rugged, easy-riding springs . . . Shock-proof cross link steering with variable-ratio that builds up extra leverage for easier turn-arounds and parking . . . Two great Studebaker-built truck engines—the Econ-o-miser—the high torque Power-Plus!

Super-strong K-member frame!

Look at that massive, rigid K-member! It gives firm support to the engine mounts—reinforces every Studebaker truck's whole front structure. Studebaker trucks come in $\frac{1}{2}$, $\frac{3}{4}$, 1, $\frac{11}{2}$ and 2 ton models.

STUDEBAKER TRUCKS

NOTED FOR LOW COST OPERATION

COMMERCIAL CAR JOURNAL, March, 1951

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PUBLICATIONS

FOR YOUR CONVENIENCE USE THIS POSTCARD

A selected list of the latest literature — catalogs, pamphlets, charts—chosen to help fleetmen improve operation and maintenance.

L69. Bearing Maintenance

A continuing study of bearing maintenance techniques and successful maintenance, installation, and removal procedures is being published in pamphlet form by The Anti-Friction Bearing Distributors Association. A file folder type of binder will be sent to each bearing user who requests it, on company letterhead, in which succeeding issues can be compiled.

At the present time too many bearings are being replaced for reasons-other than normal fatigue which in most cases is due to faulty maintenance practice. Proper distribution and use of the material to be published should reduce this loss to a reasonable minimum. This is the first time that all available maintenance information on every type bearing has been made available. Write L69 on the postcard for your binder.

L70. Shading Chart

Specific instructions to simplify the problem of tinting and shading factory-matched automobile colors to compensate for weathering or color drifting of original standards have been developed and directions for tinting and shading various colors to match the existing finish of any particular "spot in" job are printed on a large wall

chart. The chart enables a refinisher to see at a glance just what should be added to make a color lighter, darker, redder, greener, yellower, bluer, grayer, browner or brighter. Write L70 on the postcard for a free chart.

L71. Fuel Pump Chart

A special wall poster graphically illustrates the six major causes of fuel pump failure. The wall poster, size 17 in. x 22 in., is lithographed in three colors and shows a cut-away of a fuel pump superimposed on an engine. A full and sectional view of the fuel filter is also illustrated. After diagnosing the trouble, the mechanic can use the wall poster to point out fuel pump weaknesses and explain why repair or replacement is necessary. This poster will be useful in mechanic training courses. Write L71 on the postcard.

L72. Welding News

Volume VII, No. 3, "Hobart Arc Welding News," a 24-page booklet of interesting photographs and articles on welding from all over the country, is now available. Copies are mailed free of charge to anyone interested in arc welding. Many of the articles feature time and money-saving applications. To get your copy, write L72 on the accompanying postcard.

L73. Fire Fighting

The fire extinguisher division of the Ansul Chemical Co. has just published a technical bulletin (No. 9) explaining the effect of dry chemical in putting out fires in electric motors and generators. Write L73 on the postcard and distribute a booklet to your mechanics.

L74. Metallizing Tips

The current issue of the Metco News describes and illustrates several good metallizing salvage applications which saved the users thousands of dollars in materials and production time. For instance, a large automotive manufacturer has a production salvage metallizing set-up to save defective motor blocks. A New England express company engaged in freight hauling, uses metallizing to maintain operating equipment, including 95 tractors, 200 trailers, 93 trucks and 15 service wagons. In addition to a wide range of odd jobs, three major repair operations include the salvage of banjo rear axle housings, wheel spindles and brake cams. They save approximately \$250 per axle housing.

Several other profitable salvage applications are described and illustrated, such as pump parts, shafts, stamping dies, crankshafts, paper dryer rolls, bearing sections of crusher rolls, crepeing rolls. Your copy is available for the writing of L74 on the postcard.

L75. Compressor Oils

A late issue of the publication, Lubrication, is devoted to a discussion of industrial compressor as applied to ice cream handling, food and meat preservation, fur storage, ice making and air conditioning. Conventional methods of lubrication are covered, lubricating oil performance is described and factors are provided for selecting the most suitable oils for various types of compressors.

Write L75 on the postcard and add this illustrated technical publication to your files.

PRODUCTS

P131. Truck Degassers

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An improved line of Fageol DeGassers, which eliminate gasoline exhaust fumes in trucks, buses and other motor vehicles, is announced by the R. D. Fageol Co., Detroit.

The DeGasser consists of two units: (1) an engine-driven mechanical governor functioning as a control valve and (2) an air valve. During engine deceleration, the control valve diverts high engine suction from the carburetor to the air intake valve. The latter admits pure, fresh air to the intake manifold instead of the rich, wasteful fuel mixture which would normally be present. Flow of gasoline from the carburetor idling jet into the cylinders is stopped until the air valve closes at idling speed.

According to the manufacturer, the DeGasser requires neither adjustment nor lubrication. In addition to eliminating nauseous fumes, it is reputed to contribute to improved gasoline mileage and reduced oil consumption. Other advantages claimed are the prevention of backfiring and the minimizing of engine carbon deposits.

P132. Hammer-Drill

A combination portable hammer and drill unit has been announced by the Wodak Electric Tool Corp., Chicago. It has sealed lubrication, ball bearing mounts, and may be easily disassembled for repair or cleaning, the maker states. The "Do-All" is powered by a standard, aircooled motor, 110 ac-dc, and weighs about 15 lb.

P133. Emergency Light

A portable light with a rechargeable battery that will provide up to 80 hours of continuous light on each charge has been announced by Carpenter Mfg. Co., Somerville, Mass. A switch controls both bulb filaments. When both are used, the battery lasts about 20 hours.

FOR YOUR CONVENIENCE USE THIS POSTCARD

Illustrating and reviewing newest developments in parts, accessories, shop equipment and tools. For more information use the attached postcard.

P134. Compressor Switch

Delayed starting control is the primary feature of a new switch recently added to the PAR Model 100 air compressor. In operation, the second motor mounted on the compressor starts 10 sec after the first. The maker states that the amount of electrical load required for simultaneous starting is reduced.

P135. Arc Welder

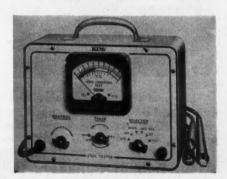
A 300 amp gasoline engine driven arc welder with a 3-kw auxiliary power generator is being announced by Hobart Brothers Co., Troy, O.



It has a 6-cyl self-starting Chrysler industrial engine connected to the welding generator and mounted on a welded steel frame. The auxiliary power unit provides for lights, tools, grinders, drills, etc. The unit is enclosed in a sheet metal canopy that is bolted directly to the frame.

P136. Engine Tester

This new portable engine tester (model G-201) for coil and ignition announced by the King Electric Equipment Co. features a larger meter and permanently attached leads. It tests for open



circuits, shorted turns, insulation breakdown abnormal core loss, grounds, reverse polarity, etc., of 6 and 12-v coils either on or off the vehicle. A coil heater brings coil windings to operating temperature. High tension current at the spark plug or distributor may also be traced.

P137. Breaker Plates

Replacement units for servicing Delco-Remy ball track distributors have (TURN TO NEXT PAGE, PLEASE)

COMMERCIAL CAR JOURNAL, March, 1951

New Product Descriptions

Continued from Page 79

been introduced by Spark-O-Liner Corp., Minneapolis. The new breaker plates are available in eight or six-cylinder sizes.

P138. Heavy Duty Tire

A wider, flatter tread with additional traction grooves is the chief feature of the new tire being made by Socony Vacuum Oil Co. The tire is said to have stronger rayon cords in addition to the skid resisting angles.

P139. Direction Signal

The "sealed beam" principle has been applied to class A direction signals for commercial vehicles by Griffin Lamp Co., Hamilton, O. The new flasher signal is 5 in. wide with a 12½ sq in. lens area.



The signal system using sealed-beam unit comes in sets of four lamps with manual or self-cancelling switch, fuse assembly, etc.

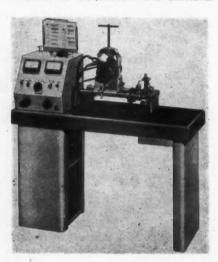
P140. Rebuilt Cylinders

A new type sleeve insert in a rebuilt hydraulic cylinder is claimed to be far superior to any honed cylinder job. The manufacturer, Mercury Brake Products Co., rebuilds standard brake cylinders using a sleeve replacement unit in which the brake piston functions. This eliminates wear and forms a weld-type bond between the sleeve and cylinder wall when under pressure. In addition, the manufacturer states that pressures above 1000 pounds have been obtained with the use of this device. About 500 pounds pressure is normal in most systems.

P141. Repair Unit

A "packaged" regulator and generator service unit that has all the necessary instruments and tools to do complete testing and overhauling has been announced by the Allen Electric and Equipment Co., Kalamazoo, Mich.

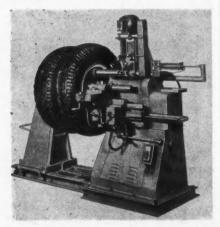
The master control unit contains a voltmeter, ammeter, field rheostat, carbon pile, armature growler, regulator mount, pre-heat oven. Power is supplied by a 60-cycle 110-v 1-hp motor. Mounted on the bench are a universal



generator vise, an armature lathe, mica undercutter, a pole shoe spreader. puller press, and master generator.

P142. Brake Drum Lathe

A drum lathe with extra large capacity has been marketed by Lempco Products Inc., Bedford, O. The "DH Special" has an outboard support which tilts back for mounting the wheel assembly.



The lathe can cut and grind to 16 in. depth and 40 in. diameter. The feed on both the grinding wheel and tool are actuated by independent hydraulic system. If necessary, the cutter can be operated alone.

P143. Small Hand Truck

Melooz Mfg. Co., Los Angeles, has a new pallet and hand truck which will handle loads up to 400 lb. The load is overbalanced by foot-operated levers and then is fully supported by an adjustable tripod support and a third wheel. The worker carries no weight but merely pushes the truck along. Metal pallets are available.

P144. Coolant Filter

For cooling systems from 5 to 10 gal. capacity, Spark-O-Liner Corp., Minneapolis, has a small filter which is said to break up accumulation of rust, scale, etc., in the radiator and block chambers.

(TURN TO PAGE 142, PLEASE)



Added power is provided for tank trailers from this "power package" slung in the trailer rails for the live axle. Use of this additional source of power permits employment of a smaller tractor while still retaining the equivalent horsepower of the larger. There is also a reduction in weight brought about by its use, adding to the payload; about 3000 pounds minimum and up to 14,000 in some instances. In gallons, this means an addition of 500 or more. Off-highway operators find the "power package" helpful in difficult terrain. The unit may be turned of when not needed. The manufacturer: Wolf Engineering Corp., Dallas, Texas

Help yourself to the WELDING SUPPLIES u need from the Ma

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1951

You'll find these and other topquality rods in the Marquette ROD BAR.

No. 130 RED-ROD , . . For all-purpose arc welding. Easy opera-tion in all positions. No. 85 HY-TEST-ROD . . . For all-position welding of high tensile steels. Affords extra margin of safety.

steels. Affords extra margin of safety.

No. 44 NICOL-ROD... Welds cast iron and malleable iron without preheating. Results machineable.

No. 450 and No. 550 HARD-ROD.. For hard surfacing alloy steel. Weld metal is tough, resistant.

No. 650 TOOL-ROD... Produces an alloy steel with the toughness and hardness of high-speed steel.

GAS WELDING RODS: No. 2

COPPER-COTE STEEL-ROD... A low-carbon steel designed to produce strong, ductile welds.

No. 5 CAST IRON-ROD... A high grade gray cast iron produces soft machineable welds on all cast iron parts. No. 30 MANGANESE BRONZ-ROD... Low fuming, tins easily, produces sound bronze welds on cast iron, malleable castings, steel, and cast steel. No. 32 FLUX-COATED MANGANESE BRONZ-ROD... Same as above, but self-fluxing. No wasted time in flux dipping.

Depend also on Marquette's complete line of welding rods for low literature.

Depend also on Marquette's com-plete line of welding rods for low temperature welding, silver solder-ing, and aluminum brazing.





JOBBER'S

Whether you need arc-welding electrodes, gas rods, fluxes, silver solder—ANY welding supply—you'll find what you want in your jobber's Marquette ROD BAR. Here's one-stop convenience for you-quick availability; a complete assortment of supplies for every type of welding job; and everything's in full view, easy to identify. Look for the Marquette ROD BAR at your jobber's. Marquette Manufacturing Co. Inc., 307 E. Hennepin Avenue, Minneapolis 14, Minnesota.



A. C. WELDERS AND ACCESSORIES















BATTERY CHARGERS

Truck Specifications

Showing New Models and Revisions Since Last Issue

The specifications of new truck models and revisions in current models noted below have been received from truck manufacturers since publication of the Commercial Car Journal Truck Specifications Table in the February, 1950, issue. Readers are requested to make note of these changes. The complete Table will be included in the April, 1951, issue.

Federal

New models include the 3401-T, 3402-T, 3404-T which replace 35M, 35M2, and 35MA. The suffix T will indicate the new Style Liner models, such as those shown in previous tables on the smaller vehicles. Other listed specifications remain the same.

Marmon Herrington

Models MH440-4, MH-RC-4, MH555-4, MH-RH-4, MH-440-6, MH-555-6 have been dropped, and in their place models MH610A, MH615A, MH620A, MH625 and MH630 have been added. Other models remain the same.

Truckstell

Removal of the following models has been announced: F2X28,2F; F2X29-0-(coe),2F; F2X28-7,2F; F2X34-7,2F; F2X34-8,2F; F2X40,2F; C2X28,2F; and C2X29-0(coe)2F. In addition, models F4X30 and C4X30 should be listed as c.o.e. One model, No. FX40-R4 has been introduced and is included in this month's specification table.

See February issue, Page 83 for specifications of other models

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even with city driving

MILTON F. ALDRICH, MILWAUKEE, WISCONSIN



"What I am particularly happy about," writes Milton F. Aldrich of Milwaukee, Wisconsin, "is the fact that my Mack A-40T is averaging 6.5 miles per gallon of gas, even with considerable city driving. This tractor, purchased in August 1950, pulls a 32-ft. tandem trailer carrying maximum loads for the states of Wisconsin and Illinois.

It makes an average of 5 round trips weekly from Milwaukee to the congested Chicago Loop district. On the highway or in the city the Mack A-40T does an outstanding job of handling its load. You can rest assured that the next truck I buy will also be a Mack."

From all parts of the country...in all lines of business—similar enthusiastic reports are now coming in from operators who find the new "A" Series Mack trucks fill a long-felt need for Mack economy and dependability in popular-size trucks.

Let your nearest Mack branch or distributor show you how these great new Macks can save you money on your particular job.



... outlast them all

Mack Trucks, Empire State Bidg., New York 1, New York. Factories at Allentown, Pa.; Plainfield, N. J.; Long Island City, N. Y Factory branches and distributors in all principal cities for service and parts. In Canada: Mack Trucks of Canada, Lid

COMMERCIAL CAR JOURNAL, March, 1951

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-- With Baumis power divider.

-Includes cab. -Auxiliary Transmission Spicer 8031

1951

New Truck Registrations by Makes by States*

STATE		Auto- car	Brock- way	Chev- roist	Dia- mond T	Divco	Dodge	Fed- eral	Ford	FWD	GMC	Inter- na- tional	Ken- worth	Mack	Pon- tiac	Reo	Ster- ling	Stude- baker	White	Willys	All Others	Total
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	12 Mos. Dec.	2	1	2542 574	8	15	595 157	8	1893 424	3	756 189	447 62	7	17	12	9	6	339 55	35	270 25	15	5,980 1,50
	12 Mos.	30	5	9468 1270	27 21	2 23	2036 745	2 3	6884 1144	1	2359 478	1515 141	24	38 45	22	47 25	12	1172	57 60	446 118	10 25	24,080
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POWERED for Phofit-Plus PAYLOADS



★ Big powerful models — up to 35 tons — that can take it on around-the-clock schedules.

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Husky, seven-bearing-crankshaft engines that meet modern power demands with — exceptional pulling capacity — ample reserve — low cost operation — long life service.

Rugged, heavy duty, deep channel frames with added section modulus for heavy loading.

★ Spacious, comfortable, all-steel cab built with many safety factors.

★ Heavy duty construction, hypoid axles with strongest axle shafts ever built for dependable service.

Big and powerful brakes with thickling wearing liners to stop heaviest loads safely.

Latest design front axles, engineered for increased strength . . . easier steering . . . greater safety.

— and dozens of other desirable features that make today's heavy duty Federals Masters of the Highways.

BUILT TO HANDLE THE BIG JOBS FASTER!

There's a reason why heavy duty Federal Trucks enjoy an enviable record of satisfactory performance. Their sturdy all-truck construction assures unmatched operating economy, low maintenance cost and long life service. Since 1910 Federal has built motor trucks exclusively. Federal engineers know what you operators need to meet today's hauling demands . . . to handle those big on-or-off-the-highway jobs faster and at a lower cost. So, put Federal gasoline or diesel powered units to work for you and save the difference. For particulars see your nearest Federal truck dealer or write us.

FEDERAL



TRUCKS

FEDERAL MOTOR TRUCK COMPANY . Detroit 9, Mich., U.S.A.

COMMERCIAL CAR JOURNAL, March, 1951

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. . . Byron J. O'HARA, recently promoted to newly created post of regional sales director, Buffalo Fire Appliance Corp.

. . . T. G. METZ, new assistant vice president in charge of sales and general operational activities of Buffalo Fire Appliance Co., Buffalo, N. Y.

. . . ERNEST S. THEISS, as chief engineer, Davey Compressor Co., Kent, Ohio.



. . ALBERT G. CROCKETT (left), as special assistant to the executive vicepresident of Mack Motor Truck Corp., New York.

. CHARLES B. CUNNINGHAM, Illinois weekly newspaper publisher and former Marine combat correspondent, to the field public relations staff of ATA.

. . . STEPHEN C. RANSOM, as regional manager of the Cleveland region of the Dodge Division, Chrysler Corporation. The region includes parts of Ohio and Pennsylvania.



. THOMAS G. HOLDEN, as manager of truck and fleet sales, general sales office, Ford Motor Motor Co. He succeeds Paul O. Larson who was appointed Detroit district sales manager.

... JAMES B. LIGHTBURN, as the new assistant to the vice president in charge of sales for Pur-O-Lator Products Co., Rahway, N. J.

...L. B. Young, as president of Pacific Motor Trucking Co., San Francisco, and assistant to the president of Southern Pacific Co.

... A. K. TICE, who leaves his retirement to become assistant to the vice president in charge sales of Fruehauf Trailer Co.



Co

...J. P. KALIVODA, as Pittsburgh branch manager of Highway Trailer Co.

... WALLACE B. PHILLIPS, the new president of Pyrene Mfg. Co., Newark, N. J.

(TURN TO PAGE 88, PLEASE)



Display this colorful, 17" x 22" Fuel Pump wall poster in your shop. Tells the fuel system story. SELLS fuel pumps and service!

Take advantage of the liberal

AIRTEX CORE CREDIT PLAN

ON NEW PUMPS

Trade in your old core for 25c extra profit on a new single type pump and 50c on a new dual type.

AUTOMOTIVE DIVISION

FAIRFIELD, ILLINOIS



Sealed Power PAX EBONITED PISTONS

are the only pistons made in which section of greatest wear can be replaced!



Every PAX Piston Equipped with GI-60 Contracting Groove Insert!

Every Sealed Power PAX Piston comes factoryequipped with the famous Sealed Power GI-60 Contracting Groove Insert—the only dependable, economical, long-lasting preventive of top ring groove wear!

This is a feature of vast importance to every fleet operator, because the top ring groove is the part of every piston that wears out first—the part subject to the greatest heat and the greatest pressure, and the part protected by the least lubrication.

By installing the Sealed Power GI-60 in every PAX Piston, Sealed Power has added thousands of miles of service!

Sealed Power PAX Pistons are manufactured from genuine Lo-Ex* Virgin Aluminum Alloy with silicon base, which dissipates heat most efficiently. Special Eboniting process assures smoother-running engine because piston surface is oil-impregnated, oil-absorbing. T-slot design, cam-ground, with rugged internal construction for extra strength and fast heat transfer.

*Registered trade mark of Aluminum Co. of America.

Write for name of nearest distributor
SEALED POWER CORPORATION
MUSKEGON, MICHIGAN

Always use Sealed Power parts for best results



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HEAVY DUTY PISTONS—Aluminum or cast iron as indicated; exclusive T-slot design, cam ground, ruggedly designed, heat treated. Equal to or better than original equipment.

WET OR DRY SLEEVES —Machined from closely controlled castings, with exceptionally fine grain and dense molecular structure for long wear.

VALVES.—Sealed Power Valves and valve parts are made from the correct grade of chrome nickel alloy steel for each engine, for finest performance and maximum service.



WATER PUMPS—Manufactured from finest quality materials to highest standards. Our line is complete.

KING BOLTS & BUSHINGS—Manufactured from highest quality forgings, and heat treated to meet your exact requirements.

TIE RODS & SHACKLES — Sealed Power Tie Rods, Spring Shackles, and Front Wheel Suspension Parts meet specifications of original equipment,

COMMERCIAL CAR JOURNAL, March, 1951

Introducing . . .

Continued from Page 86

fleet sales department, Ford Motor Co.

... JOHN S. FRENCH, the new contract administrator of Ford Motor Co.'s Office of Defense Products.

. . . H. A. HERMAN, new assistant manager of International Harvester Co.'s Albany, N. Y. motor truck district.

... Russell G. Charles, appointed assistant sales manager of Burd Piston Ring Co., Rockford, Ill.

... LEONARD W. EXKEL, as secretary-manager of the Montana Motor Transport Association. He succeeds C. F. (Ole) Reardon, formerly of Billings, Mont. who was appointed collector of customs with headquarters at Great Falls.

... Kenneth McLean, recently appointed to the sales organization of the Crecent Co. Pawtucket, R. I.

. . . James O'Neil, as manager of new and used car sales for Ford Motor Co.

... ALBERT B. ROSENBAUM, attorney and assistant general manager of regular Common Carrier Conference of ATA, who will serve as consultant on highway transportation to the Defense Transport Administration.



...R. W. Walker, executive vice-president and director of the Brunswick Ordnance Corp., New Brunswick, N. J., a Mack subsidiary.

...D. A. Gell, as truck sales supervisor who will coordinate truck sales activities of the 21 Dodge regions.

... Robert M. Eastman, formerly with E. I. du Pont Corp. who has joined the sales department of Commercial Solvents Corp. as executive assistant to the manager of the Specialties Division.



... HARRY G. CALL, vice-president of Electric Auto-Lite Co., in charge of their pension and insurance department.

... Men of Pacific Motor Trucking Co., San Francisco, who assumed new duties in January: Robert K. Lattin, in charge of operations in Oregon, California, Nevada, Arizona, New Mexico, and parts of Texas; Robert K. Booth as assistant general manager in San Francisco; and Joseph L. Kennedy as assistant district manager, San Francisco; and Daniel D. O'Connor as assistant district manager, Los Angeles.

... PETER M. ISAAC, as director of public relations, Highway Safety Appliances, Inc., St. Paul. Minn.

... SHERROD E. SKINNER, group executive in charge of General Motors Accessories.

... HOWARD COOPER, manager of Technical Service of Sinclair Refining Co., New York, was elected president of the National Lubricating Grease Institute.

...GORDON A. JACOBS, appointed representative in charge of the Dallas division, Detrex Corporation.

... M. B. GARBER, made director of sales for the Thew Shovel Co., Loraine, Ohio.

... James R. Davis, as regional manager of the Greensboro, N. C., region for the Dodge Division, Chrysler Corp.



Co

It's Just Good Business



to Increase Power Brake Capacity



When You "Beef Up" Any Truck ...



THAT MEANS

Bendix HYDROVAC

WORLD'S MOST WIDELY USED POWER BRAKE

BECAUSE IT'S

"Load Rated"!

Bendix

PRODUCTS DIVISION

SOUTH BEND

INDIANA

When you increase the load capacity of your truck by adding a larger box, installing new springs, axles and so forth, it's just common sense to increase brake capacity, too. Your Bendix Vacuum Power dealer can give you some mighty helpful tips on that point. He can show you how the Bendix* Hydrovac* offers greater economy and flexibility on any truck, large or small. And he ought to know, because Hydrovac is the world's most, widely used nower brake. See him.

most widely used power brake. See him soon; get the facts, and we believe you'll install Bendix "Load Rated" Power Brakes.



*REG. U. S. PAT. OFF.

Canadian Sales: Bendix-Eclipse of Canada, Ltd., Windsor, Ontario, Canada • Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

COMMERCIAL CAR JOURNAL, March, 1951

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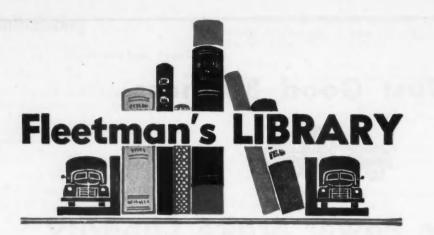
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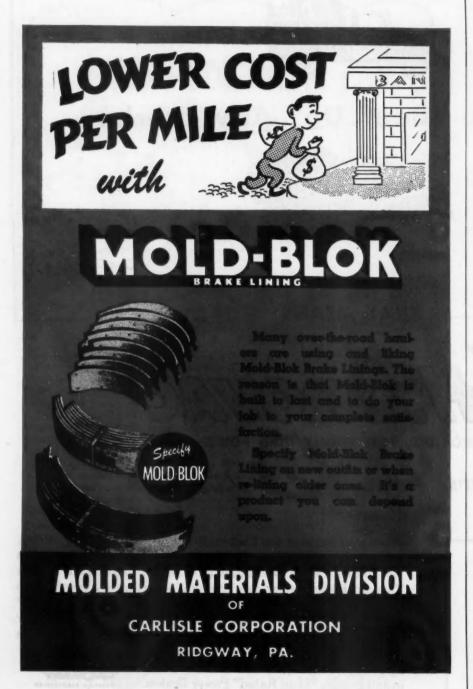
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Buda, heavy duty truck diesel engines are outlined, diagrammed, and presented in a 15-page booklet produced by The Buda Co., Harvey, Ill. Complete data and specifications on the models plus photographs of fleet units in operation are included.

Nailable Steel Flooring for trucks and trailers, tells the advantages of using this type of flooring for truck interiors, and includes several diagrams of the material and its application. The booklet is available from Great Lakes Steel Corp., Steel Floor Div., Detroit 29, Mich.

Towmotor has just produced a standard specifications folder containing complete data on Towmotor Fork Lift Trucka. Their address is Towmotor Corp., Cleveland, Ohio.

Hardfacing Catalog, a 20-page, illustrated catalog contains detailed information on the complete Airco line of hardfacing alloys. Description of product, typical uses, mechanical properties, chemical analyses and a brief outline of recommended procedures are included. Write Air Reduction Sales Co., A Div. of Air Reduction Co., Inc., New York, N. Y.

Air Foam Catalog, a 24-page brochure on air foam or mechanical foam for fire-fighting describes air foam, methods of application, high and low expansion types of foam compound, specifications and operating characteristics for five sizes of portable playpipes. Write Pyrene Mfg. Co., Newark, N. J.

Transportation Finishes, a 26-page booklet, incorporates recommendations for finishing transportation equipment. In addition to general cleaning, priming, surfacing, sanding and painting procedures with various types of protective coatings, there is included a large chart. This chart lists the company's products and processes with complete application instructions and necessary technical information, along with respective government specification numbers. Write McDougall-Butler Co., 2929 Main St., Buffalo, N. Y., for a copy.

Power Units designed to improve and extend the advantages of stud welding are described in a new four-page bulletin issued by the Nelson Stud Welding Div. of Morton Gregory Corp., Lorain, Ohio.

Stop Murder is the title of a safety booklet designed to focus public attention on the need for better roads. Published by Caterpillar Tractor Co., Peoria, Ill., the booklet is a compilation of advertisements that appeared in nationally known general interest magazines during 1949-50. Free copies are available.

Fleetfone, Carfone, and AC Carfone are titles of three new brochures describing RCA's latest station equipment for two-way mobile radio communication systems. Copies may be obtained by written request to RCA field offices or the RCA Engineering Products, Camden, N. J.

(TURN TO PAGE 92, PLEASE)

Cut maintenance time and cost with help of Exide BATTERIES

Exide Batteries are built to give exceptional service... to withstand hard service... to deliver economical service. They're helping to keep trucks out of the shop and on the road... in local deliveries... in long distance haulage. That's one of the big reasons why so many fleet owners equip with Exide. They know they can count on Exide Batteries for dependable performance and ease of maintenance, plus a combination of other qualities that make Exide the best truck battery buy at any price.

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia 2

Exide Batteries of Canada, Limited, Toronto "Exide" Reg. Trade-mark U. S. Pat. 6



Exide has EVERYTHING
Surplus STARTING POWER

Extra LONG LIFE
LOW COST PER MILE OF OPERATION

WHEN IT'S AN Exide YOU START

1888... DEPENDABLE BATTERIES FOR 63 YEARS... 1951

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Fleetman's Library

Continued from Page 90

Quincy Compressors are described in a catalog available from the Quincy Compressor Co., Quincy, Ill. Included are illustrations, specifications and features of all automotive models.

Portable Tools for Industry is the title of the new catalog prepared by Cummins Chicago Corp., 4740 N. Ravenswood Ave., Chicago 40, Ill. The catalog tells all

about the Cummins line of drills, sanders, saws, grinders, and rotary planers with their accessories and parts.

A Refuse Loader made by Gar Wood Industries, Inc., Minneapolis, is described in a folder available on request. The loader mounts on a truck chassis 84 in. can-to-axle size, and is said to give more even weight distribution and loading capacity.

An up-to-the-minute edition of SOLDER-ING TIPS, popular 20-page pocket manual of soldering, has been announced by Weller Electric Corp., of Easton, Pa., makers of Weller Soldering Guns.

A new Technical Data Sheet on Permalite Lightweight, Insulating Concrete, $8\frac{1}{2}$ x 11, illustrated, is now available on request, from Great Lakes Carbon Corp., Building Products Division, 18 East 48th St., New York 17, N. Y.

FRONT END PARTS, two new catalogs cover C-H front end suspension parts and chassis parts. Completely revised and simplified, in the reprinting will be the addition of 22 new front end kit numbers, 36 tie rod numbers, 30 king bolt numbers and 52 new coil spring numbers. Hershey Metal Products, Inc., Derby, Conn.

New Cargo Truck, a bulletin descriptive of its new line of Fageol Super Freighters, contains a complete description with detailed specifications and comparative figures to show how the units transport more payload. For bulletin copies L-3447, write Twin Coach Co., Kent, Ohio.

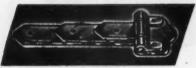
A new 22-page catalog has been issued to describe the latest design Type CH plain hydraulic cylindrical grinding machines manufactured by the Landis Tool Co. Write the above company at Waynesboro, Pa., for a copy.

A 4-page folder is available from the J & S Tool Co., Inc., 477 Main Street, East Orange, N. J., explaining how jaw clamps eliminate the need for U-clamps and straps to secure all shapes and sizes of work-pieces to all types of machine tools.

SAFETY LICHTS AND REFLECTORS; a catalog shows the latest line of safety lighting and reflecting equipment, covering most every lighting and reflecting need for cars, trucks, trailers, buses, tractors, emergency vehicles, etc. Write Do-Ray Lamp Co., Chiago, Ill.



No. 16 Leaf-Type Hinge. 3-ply. 16" strap. 2% wide. All-steel. Plain, cadmium or chromium Wt. 5% lbs.



No. 12 Leef-Type Hinge, 3-ply. 12" strap, 21/4" wide. All-steel. Plain, cadmium or chromium. Wt. 4 lbs.



No. 6 Leaf-Type Hinge. 8" strap. 1%" wide. All-steel. Plain, cadmium or chromium. Wt. 21/2 lbs.



WRITE FOR CATALOG WITH COMPLETE INFORMATION. HANSEN Leaf-Type Hinges are made of hard-rolled steel. Strong, durable, attractive, they support the heaviest commercial body doors—and give lasting service.

Hardened Steel Thrust
Bearings and Bolt

To give added strength and durability, Hansen Leaf-Type Hinges are fitted with hardened steel thrust bearings. (See inset above.) These bearings provide solidly supported doors and insure easier opening and closing.

Leaf-Type All-Steel Insures Greater Strength

Greater strength is provided by leaf-type construction, which gives greatest strength at base where most needed. Arrows at top point to unique leaf-type design. Leaves are spot-welded.

Hinges Available in Various Types

Hansen Leaf-Type All-Steel Hinges are available in 8", 12", 16", and 20" lengths chromium, cadmium or plain finish. Brass Hinges, leaf-type, can be supplied in 6", 8" and 12" lengths. Also, round-corner, square-corner and continuous types.

A. L. HANSEN MFG. CO.
5047 RAVENSWOOD AVE., CHICAGO 40.ILL.





Spicer Brown-Lipe Model AA Power Take-Off

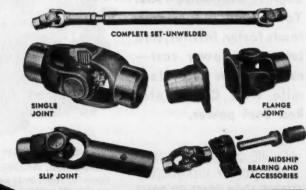
The new Model AA Spicer Brown-Lipe Power Take-Off gives you all the advantages of famous Spicer engineering, Spicer precision manufacturing, and Spicer quality — plus an attractive popular price! Here are the outstanding features:

High Efficiency and Long Life • Needle Bearings • Spur or Helical Alloy Steel Gears • Cable or Lever Control • Easily Installed • No Adaptors or Filler Blocks Needed for Helical Models.

The new Spicer 1000 Series P.T.O. Joint is a fitting quality companion for the new Model AA Power Take-Off. It is a small compact needle-bearing unit, ruggedly constructed, with high capacity. Designed for both continuous and intermittent service. Other special Spicer features include patented blowout-proof oil seal, lubrication fitting, small diameter and wide angle. Can be installed in limited operating space.

Only Spicer offers a complete Power Take-Off and P.T.O. Joint line to meet every need—ask for Spicer engineering help.

and Spicer 1000 Series P.T.O. Joints



TRANSMISSIONS • CLUTCHES • PARISH FRAMES • SPICER *BROWN-LIPE* GEAR BOXES PROPELLER SHAFTS • STAMPINGS • FORGINGS TORQUE CONVERTERS • PASSENGER CAR AXLES • UNIVERSAL JOINTS • RAILWAY GENERATOR DRIVES • POWER TAKE-OFFS

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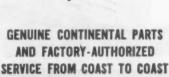
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Division of Dana Corporation
TOLEDO 1, OHIO

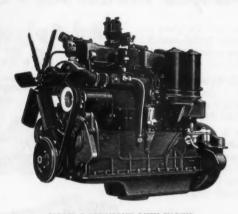


Engine is Built!
wn" on the engine, ask the man behind

For the "low-down" on the engine, ask the man behind the wheel. He knows what goes on under the hood; he spends all his working hours finding out. If his truck or tractor is powered by one of these new Continental Red Seals, you'll hear about performance that's pretty hard to beat. POWER—for today's higher road speeds, with far less frequent shifting in traffic or on grades—for picking up the big load and getting under way, or settling into the traces and lugging when the going gets tough. He'll tell you—and fleet records prove—that they're easy on gas and oil and spend mighty little time in the shop. In short, they're what you'd expect from a company which pioneered

in internal combustion power and which has been building specialized engines ever since 1902. You'll haul bigger payloads faster, farther, and longer at lower cost—net more on every tonmile with Continental Red Seal power.





MODEL R-600 HEAVY-DUTY ENGINE
(transportation) Six-cylinder—overhead valve
type—for trucks, buses and tractors. Delivers
110 to 160 net horsepower.

Continental Motors Corporation
MUSKEGON, MICHIGAN

CCJ Reports

Continued from Page 27

Defense Problems Studied

The general subject of the recent National Truck Leasing System annual meeting was how to continue to maintain normal efficiency standards during the national emergency. Speakers presented the problems involved, and during the sessions various plans were discussed. Immediate details are not available, but the projected program indicated that the subjects under consideration were well covered from within the organization as well as from an impressive roster of guest speakers.



Plant executives at Dodge inspect military model M-37 cargo vehicle which is being made on the same assembly line as civilian models

Ton-Mile Tax Discussed

New York State is considering a ton-mile tax to be imposed on all commercial vehicles. Hearings have been held by the joint committee on highway and canal use, at present studying various aspects of the proposal. The proposal is supported by the New York Central Railroad, the Railroad Brotherhoods, the State Conference of Mayors, and the Conference of Agricultural Organizations. Opposing the tax, the truck operators were represented by W. Foster Banks, who said that the trucking industry was willing to pay its share of highway deficits when the State reserved all motor vehicle revenue for highway use. Reports are expected on the new tax proposals around March 1.

Officers Elected

At the annual meeting of The Aluminum Association in New York, A. P. Cochran of the Cochran Foil Company, Inc., Louisville, Ky., was elected president. Three vice-presidents and three directors-at-large also were elected. A. V. Davis, Aluminum Company of America, New York, was reelected chairman of the board and Donald M. White was reappointed secretary and treasurer.

(TURN TO PAGE 96, PLEASE)

STANDARD ENGINEER'S REPORT

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LUBRICANT RPM Delo Oils

UNIT 50 diesel engines

108 "Super Inch" gas pipeline

From Arizona to California Pacific Coast

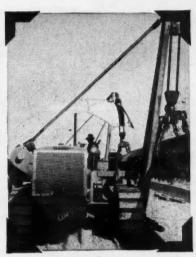
FIRM Bechtel Corp., San Francisco

Only 3 ring jobs on 50 engines in $1\frac{1}{2}$ year's operation!



LUBRICATED WITH RPM DELO OILS, only three of the 50 heavy-duty diesel engines, used by Bechtel Corporation in building the great "Super Inch" pipeline, required ring replacements in $1\frac{1}{2}$ year's work. No bearings were replaced.

WHEN BUILDING "SUPER INCH", biggest and longest gas pipeline in the world, equip-ment worked under every condition—in every condition—in knee-deep dust, water, mud, sand and rock; in extreme heat and freezing cold. The trench, 5½ feet deep and 44 inches wide, was dug across deserts, farm areas and mountains from deserts, farm areas and mountains from Topock, Ariz., to Oak-land, Calif. The 34-inch pipe, welded, asphalt-coated and paper-wrapped on the job, was handled by special off-center tractors at right.





DIESELS OF ALL SIZES up to D-13000 models were on the job. Here four Caterpillar D-8's "walk" a pipe section into place along side the trench. There's an RPM DELO Lubricating Oil for every diesel.



FREE BOOKLET on the RPM DELO Oils gives you complete information. Write or ask for it today.

TRADEMARK "RPM DELQ" REG W S. PAT OFF.



How RPM DELO Oils reduce wear, corrosion, oxidation in Tractor, Truck and other **Heavy-Duty Engines**



- A. Contain special additives that provide metal-adhesion qualities...protect parts whether hot or cold, running or idle.
- B. Anti-oxidant resists deterioration of oil and formation of lacquer...prevents ring-sticking. Detergent keeps parts clean...helps prevent piston scuffing.
- C. Special compounds stop corrosion of any bearing metal and foaming in crankcase.

FOR MORE INFORMATION about this or other petroleum products of any kind, or the name of your nearest distributor handling them, write or call any of the companies listed below.

STANDARD OIL COMPANY OF CALIFORNIA . San Francisco THE CALIFORNIA OIL COMPANY . Barber, N.J., Chicago, New Orleans STANDARD OIL COMPANY OF TEXAS . El Paso, Texas THE CALIFORNIA COMPANY . Denver, Colorado

CCJ Reports

Continued from Page 94

Harvester Film

International Harvester Company has produed a sound slide-film titled "The Money-Making Metro" describing the uses and manufacture of International multistop delivery trucks with Metro bodies. It will be shown to Harvester dealers, district and branch offices, and in turn to prospects.

1950 Domestic Truck Factory Sales by G.V.W.*

5.000 lb. 5.001- 10.001- 14.001- 16.001- 19.501- Over

	and Less	10,000	14,000	16,000	19,500	26,000	28,000	Total
January	39,252	19,251	6,804	13,093	2,680	1,816	1,478	84,374
February	39,629	17,151	6,032	11,739	2,720	2,157	1,511	80,939
March	47,828	20,921	7,200	14,644	3,680	3,474	2,064	99,811
April	46,375	19,025	5,884	12,956	3,408	3,322	2,326	93,294
May	52,805	21,935	7,468	16,705	4,093	3,598	2,393	108,997
June	58,892	24,249	8,158	18,461	4,131	3,507	2,835	120,233
July	47,590	20,991	6,550	13,426	3,843	3,489	2,714	93,803
August	58,084	24,223	7,674	18,347	4,920	5,163	2,892	121,303
September	51,888	15,082	5,476	12,838	2,680	3,413	2,120	93,378
October	46,700	24,932	5,020	12,045	2,729	3,728	1,982	97.118
November	40,572	15,669	4,198	10,151	3,760	3,976	2,506	89,832
December	50,139	20,551	5,529	15,544	4,134	4,600	3,019	103,516
Total—1950	579,754	243,980	75,993	169,949	42,756	42,144	27,820	1,182,300
Total-1949	469,255	253,035	70,969	135,604	28,396	19,780	15,569	997,808

BUTANE—PROPANE

A New Surge of

POWER

for Truck Fleets

ALGAS Multi-Jet CARBURETORS

assure more economical operation

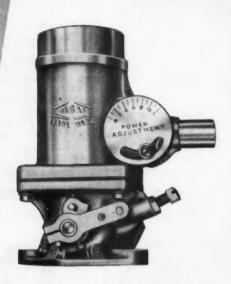
reduce excessive maintenance costs

cut motor oil consumption

accelerate more power

ALGAS IS A PIONEER IN THE LP GAS INDUSTRY





ALGAS Carburetion equipment has a record of successful operation in the Butane - Propane fuel field. Eighteen years experience is behind the complete ALGAS line. Today more and more fleet owners are turning to LP fuels because they develop complete combustion that leaves no carbon, sludge or gummy deposits. This means marked economy of operation. As the trend to Butane-Propane continues, the preference is swinging to ALGAS because it stands for perfectly engineered LP equipment.

Write or wire today for engineering information

AMERICAN LIQUID GAS CORPORATION

1109 Santa Fe Avenue - Los Angeles 21, California

Tire Legislation Started

A bill that will limit sales of all motor vehicle tires to "independent tire dealers" has been introduced in the House of Representatives by Rep. Wright Patman (D., Texas). A similar bill is being introduced in the Senate. Under provisions of both bills "independent tire dealers" are "engaged in the selling, servicing, repairing, recapping or retreading of tires." Any person or company engaged in the manufacture of tires, automobiles, petroleum products or lubricants cannot qualify under this law as "independent tire dealers."

New Factory Purchased

Brown Equipment and Mfg. Co. of New York have purchased the former Anchorage Homes plant at Westfield, Mass. The purchase was made necessary as a result of a fire which completely destroyed the company's plant at Taunton, Mass. Administrative personnel from the Taunton plant will be transferred to this new location.

Aluminum Production Report

"The U. S. aluminum industry produced 19 per cent more primary metal during 1950 than in the previous year," said Donald M. White, secretary of The Aluminum Association, in announcing production figures for the year. "Primary production during the final quarter was 382,176,940 lb to bring the year's total to 1,437,255,518 lb."

Mr. White said plans provide for increasing the industry's capacity by some 20 per cent this year, and for further increases in 1952. But most of the metal so produced will be earmarked for defense orders or the national stockpile.

IHC Training School

International Harvester recently announced plans for the construction of a new central training school at 186-194 East Delaware Place in Chicago. The building will serve as a training facility for the company's own employes, dealers, and dealers' employes from all parts of the United States. It is anticipated that the project will be completed about August 1, 1951.

(TURN TO PAGE 110, PLEASE)

HASTINGS USES CHROME

...ON THE OIL CONTROL RINGS



It's the oil control rings that usually determine the life of any set of piston rings. That's why Hastings adds chrome on these vital oil rings, where it does the most good.

For more than four years the Chrome-Faced Steel-Vent and the Chromlube have been setting amazing performance records under severe operating conditions. Reports of three and four times conventional ring life are common.

Under any operating conditions, you'll get greater resistance to scuffing, less cylinder wall drag and longer life with Hastings Chrome Sets. Install them on your next heavy duty re-bore, re-ring or re-sleeve job.

HASTINGS MANUFACTURING COMPANY . HASTINGS, MICHIGAN Hastings Ltd., Toronto



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HASTINGS STEEL-VENT

CHROME-FACED FOR HEAVY DUTY SERVICE



sleep's unaffected... his trucks are protected

Worry! Fret! Loss of sleep thinking how fire on the road or in the garage can cause loss of equipment, loss of cargo, upset schedules and irate customers... all are anxieties of the past when your trucks and garage are fully protected with modern, approved C-O-TWO Fire Protection Equipment.

For example, with a C-O-TWO Automatic Fire Protection System in a trailer, you have a 24 hour a day automatic fire watchman... whether under way or parked. Heat detectors on the ceiling quickly actuate the system... then clean, dry, non-damaging, non-conducting carbon dioxide gas is flooded into every nook and corner, extinguishing the fire in seconds before it spreads and causes serious damage. After use, the carbon dioxide disappears without a trace

9A

... no water damage, no odors.

C-O-TWO Portable Fire Extinguishers . . . either carbon dioxide type or dry chemical type . . . render fast, positive action for extinguishing fire during the incipient stage. C-O-TWO Portable Fire Extinguishers are designed to take abuse . . . rugged construction, no extra gadgets protruding or complicated operating parts . . . built to rigid specifications to assure you of efficient fire protection.

Remember fire doesn't wait . . . let an expert C-O-TWO Fire Protection Engineer help you in planning complete and up-to-date fire detecting and extinguishing facilities for your fleet and other property now. Write us today . . . tell us about your particular fire hazards, our experience is at your disposal . . . no obligation of course.



C-O-TWO FIRE EQUIPMENT COMPANY

NEWARK 1 . NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada Affiliated with Pyrene Manufacturing Company

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers

Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems

Built-In Smoke and Heat Fire Detecting Systems

Trailer Builders

Continued from Page 76

fail to build up our roads while we increase our production," he said, "would be to invite disaster in the form of an economic breakdown of precisely the kind our enemies would delight to see,"

Using as his theme, the essentiality of highway transportation in the event of a bombing attack, Russell E. Mac-Leery, field services manager of the National Highway Users Conference, took his listeners on a lightning tour of the U. S. A., highlighting the legislative developments now pending in 44 states. Since many of his remarks were based on the special story prepared by COMMERCIAL CAR JOURNAL'S February issue (page 57), we will not detail them "In spite of the essentiality of motor transportation to the defense effort," Mr. MacLeery said, "there are those who would hamstring its operation as is evidenced by the restrictive proposals which are being introduced and are likely to be introduced in the state legislatures."

Then Mr. MacLeery summed up our current highway difficulties in this quotation from Chairman Bradley of the NHIC:

"1. The startling rise in vehicle registrations. Several years ago it was predicted that we would have 44 million vehicles in 1950. Already we had 48½ million in 1950.

"2. We have not caught up with highway work deferred during World War II.

"3. Our highway design standards have risen.

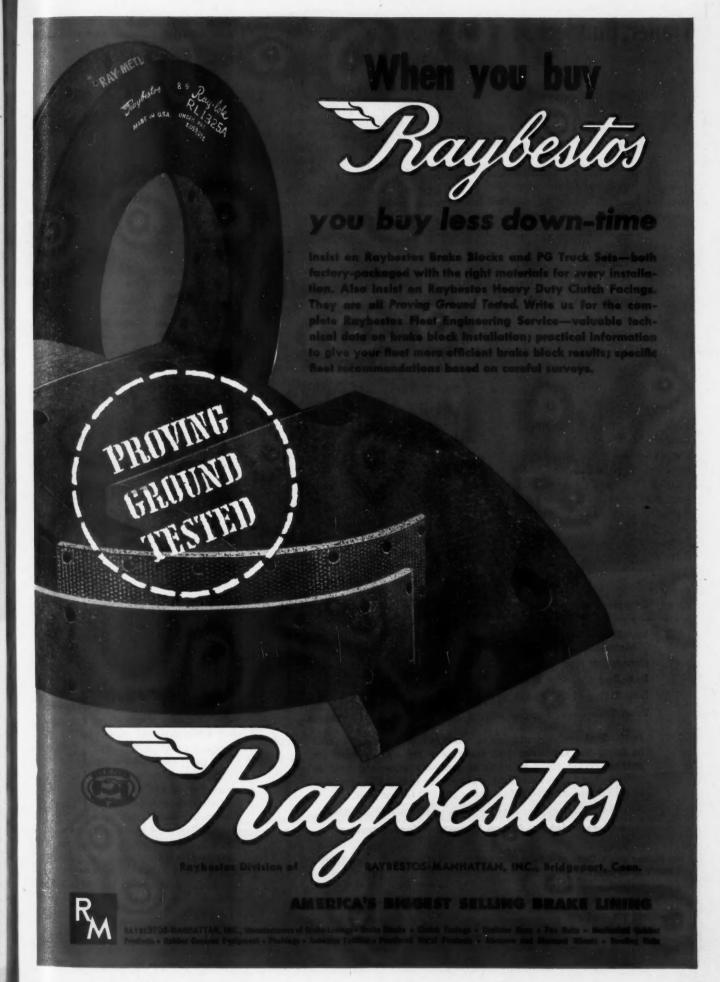
"4. Our highways are wearing out due to large traffic volume.

"5. Because of political pressure, we have been spending too much money on unnecessary projects."

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Ahhh! Spring!



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Trailer Builders

Continued from Page 98

Military Procurement

FROM Major Francis Abrino of the Ordnance Tank-Automotive Center in Detroit, came the interesting news that "only tactical trailers are in the mobilization plan." This means, he explained, that the military services will purchase large quantities of standard commercial trailers on a competitive basis, which should result in greater economies to the taxpayer and greater production from the manufacturers.

The major also explained in some details the functions of the huge new Tank-Automotive Center established last September in Detroit. The center has its own research, development, engineering, mobilization, facilities planning, procurement, manufacturing and stock control functions. Through it are now funneled all tank and automotive purchases for all of the military ser-

Cooperation With Fleets

THE fifth and final speaker needs no introduction to the fleet operator. He was Leland James, president of the American Trucking Assns. Following general remarks concerning the capacity of the nation's truck fleet to serve in pease as well as war, Mr. James urged cooperation between truck and trailer builders and the users of their equipment in the form of monthly meetings for the furtherance of highway transportation.

We are prepared," he said, "to take the lead in forming a council of the manufacturers of trucks and trailers on the one hand and, on the other, the motor carrier operators, both forhire and private, who use the vehicles. There is no dearth of important subjects upon which the recommendations of such a council would be of great value, especially at a time when . . . the country is preparing for what may

be a 'war of survival.' "

Allman Re-elected

At the convention's business session: . . . L. C. Allman, executive vicepresident of the Fruehauf Trailer Co., was re-elected president of the association along with W. E. Grace of Hobbs Mfg. Co. as Eastern vice-president; John C. Bennett of Utility Trailer Mfg. Co. as Western vice-president, and C. A Persinger, Wilson Trailer Co., Inc., as treasurer. John B. Hulse is managing director.

. . . R. L. Hardgrove, vice-president of Liberty Highway Co., Toledo, urged the adoption by all trailer builders of the "universal" type seven-wire electrical connector, recommended by the Equipment Advisory Committee of ATA, in order to facilitate the interchange of tractors and trailers within fleets and among connecting lines. Several manufacturers now produce the

standard coupling.

... passed several resolutions urging: (1) that DTA press the materials claim for 90,000 trailers in 1951, (2) that the military establishment rely on the trailer manufacturing industry for the fulfillment of its vehicle needs, and (3) that the concept that highways are "monuments which must be preserved at no matter what inconvenience" be defeated. The resolution added that priority should be given to those parts of highway programs shown to be immediately needed.

Please Resume Reading Page 78

52 out of 3 hours



Disassembly

A motor rebuilding shop in the Southwest introduced electric Impactools on 5 hand operations with amazing results, which speak for themselves:

With Impactool By hand ...70 minutes.....30 minutes (longer if rusted) (even if rusted)

2. Installation of Crankshaft and

Connecting Rod Bearing Assembly .40 minutes 15 minutes

Installing Cylinder Head....... 5 minutes..... 5 minutes

Installation of Oil Pan........... 20 minutes..... 5 minutes Total Time consumed per unit 180 minutes

In the final analysis, shop owners and mechanics are interested in doing the job faster and easier, and the chief reward for putting power tools to work is probably expressed best in dollars. The 115-minute saving per engine in this shop resulted in an additional net profit of over \$50,000 in one year.

Send for your copy of Impactool Case History No. 5082-6.

Ask your Jobber for an Impactool demonstration.

No Motor Burn-Outs, can't stall motor

11 Broadway, New York 4, N. Y.

No-Kick, No-Twist to operator

ORIGINATOR OF IMPACTOOLS—air and electric

Drills Masonry Wire Brushes Taps Reams Drives Screws

Drives Studs Bores Wood Saws Holes Drills

Extracts Broken Studs



TRAILERS

Repeat in Fleet After Fleet

Twenty years ago the F & S Transit Co., Inc. put its first Edwards trailer to work. Ever since then Edwards trailers have been mainstays in the fleet of this company, headquartering in South Bend. Today there are 30. This is typical of the way Edwards trailers find favor with truckers everywhere.

There must be a reason for these repeat purchases...and there is! Edwards trailers cut the cost load; add to payload

profit. They combine low first cost, and low maintenance cost with consistent performance on the road.

Edwards trailers have rugged frames and body cross members; sides welded to top and bottom side rails; Timken bearings and axles; vacuum or air operated brakes; improved type landing gear; free-end type springing and many other features. With operating costs on the rise it will pay you to check Edwards.

BODY AND COMPANY

EDWARDS TRAILER AND BODY CO. Dept. C.3, South Bend 23, Indiana. Rush data on () Edwards Trailers () Edwards Dealer Franchise

DEALERS: A LIMITED NUMBER OF EDWARDS FRANCHISES ARE AVAILABLE IN RESTRICTED TERRITORIES

COMMERCIAL CAR JOURNAL, March, 1951

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Private Carriers Discuss . . .

Continued from Page 51

Under the "How" of safety he urged the carriers to cooperate with Federal and state highway safety prgrams with particular emphasis on the enforcement of legal load limits.

As the latter are effected by military transport needs he emphasized the fact that under a new ruling of the Department of Defense, only authorized representatives of the Military Dept. may request permits for special sizes and weights and under no conditions shall a carrier be authorized to contact state authorities for such permits.

"Highways Are Not Expendable" was the challenging and controversial theme advanced by H. H. Hale, Exec. Secretary of American Assn. of State

Highway Officials (AASHO). As can be construed from the title of his paper, he argued that our existing highways, as they are today, must in large measure carry us through still another emergency of unpredictable extent.

From Pike Johnson, president of the Automotive Safety Foundation, came a forceful appeal to fleet operators to get behind the highway planning programs now being carried out at Federal and state levels. Both Johnson and Haie urged that special and primary attention be given to the 40,000-mile key highway system which makes up the heaviest load areas in the nation's 3,200,000 total miles of highways. There was also a special report, presented by J. P. Buckley of the ASF, concerning the careful highway planning study just completed in the state of Ohio. The study involves a traffic check on every mile of the state's highway and streets, pin points most urgently needed projects, and represents a model program for other states to follow.

Highway Panel

Perhaps most interesting of all events was a panel discussion on "The Economics of Highway Transportation" of which George B. Sowers, consulting engineer from Cleveland, was moderator. First panel speaker was C. J. Fagg, president of the Eastern Industrial Traffic League, Newark, N. J., who drove home two powerful points: (1) Regardless of what kind of tax may be imposed, including the ton-mile tax, it is the public, not the truck operator, who pays the taxes and (2) New Jersey's famed Route 25, built more than 25 years ago with "black top" surface and carrying more traffic and heavier loads than any other highway in the world, is still in good condition.

Next came Prof. John S. Worley, Ann Arbor's highway specialist, with a biting attack on the Bureau of Public Roads in general; the AASHO code and various highway load tests in particular. Quoting Commissioner Mac-Donald at the Senate sub-committee hearings last July, Mr. Worley set out to prove that the AASHO code was to be a floor, not a ceiling, as presently being advanced, for size and weight limitations. The Professor accused the Bureau of Public Roads of using the Bates test, made 28 years ago in Illinois with solid rubber tires, as its principal reason for advocating 18,000 lb axle loads, and cited its refusal to bring out conclusions from the Pennsylvania Turnpike tests which demonstrated the economy of heavy truck loads. "Motor Transport," he said, "stands at a cross

(TURN TO PAGE 104, PLEASE)



These new Anthes mirrors are designed and made to be worthy members of the Anthes line. Extra ruggedness and longer service are the result of these extra features: 1. The glass rides in soft, embracing rubber at all contact points.

2. Improved heavy steel brackets—universal for hinge or body mounting. 3. Equipped with the patented Anthes strut arm. On your next order for Anthes Safety Equipment include Anthes mirrors, too. They will serve you well. Write today for the new Anthes catalog.

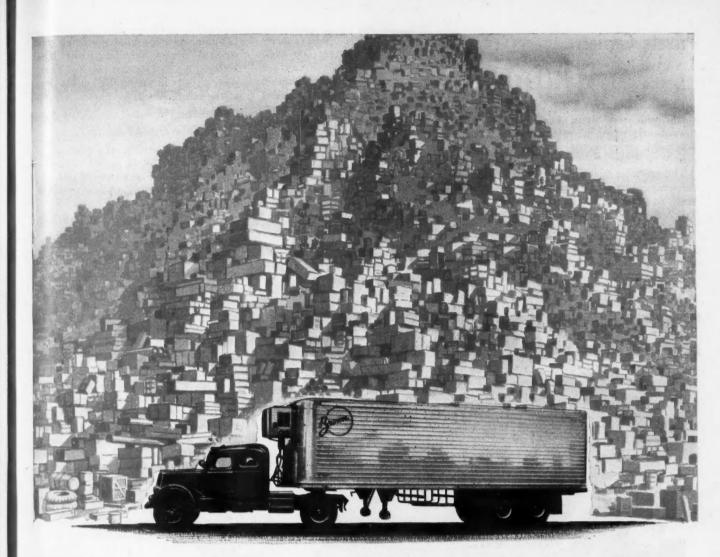
ANTHES FORCE OILER CO

FORT MADISON, IOWA

CINTAL SFIRST LINE OF SAFETY

... and proud to serve the safest drivers on the road!





They move Mountains for national defense the NATION'S MOTOR CARRIERS

The motor carriers of the nation are meeting today's challenge — moving mountains of goods swiftly and dependably for the country's defense. The trucking industry has constantly grown to meet the nation's needs. Each year more and more shippers turn to motor freight for their transportation needs. The motor freight industry has demonstrated its ability to serve — for progress in peace — for preparedness in times of war.

In 1949 inter-city truck ton-mileage exceeded 90 billion — more than 7 times greater than in 1925.

In 1949 more freight was hauled in Brown Aluminum trailers than ever before. In 1950 still more mountains of freight are going via Brown trailers operated by many of the nation's leading motor freight lines.

Brown Trailers, Inc., salutes the motor freight industry for its contribution in peace and in war. Brown pledges its every facility to producing the best lightweight aluminum trailers that will support the industry in its all-out efforts to move mountains for national defense.



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Private Carriers

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roads with two signs, one pointing toward stagnation, the other toward continued improvement and development."

The truck engineer's standpoint was delivered by Harry Bernard, chief engineer of Mack International Motor Truck Corp. An axle rated at 27,000 lb capacity, he said, weighs 3800 lb

whereas an axle with 18,000 lb capacity weighs 2800 lb. Thus for 1000 additional pounds of weight, you can get 9000 lb increased capacity. In addition the larger sizes provide the physical space needed for better brake mechanisms. "Both eastern and western vehicles," he said, "are actually the result of their own environment, and if we were to try to use West Coast rigs in the east, we would snarl traffic far beyond anything we have seen."

Finally, Commander Noble of the New Jersey Turnpike Authority, outlined many salient features of the new 118-mile super turnpike now being constructed across the length of New Jersey. (A separate story on the Turnpike, already in preparation at the time of the meeting, will be found on Page 52 of this issue.)

New Safety Awards

From the Council's safety committee came word of the formation of a new Highway Safety Bureau which will present three awards to members on the following basis:

A Gold Seal Award, in the form of a certificate of accomplishment, for no accidents in 1951:

A Red Seal Award, as a certificate of merit for each member company which has reduced its accidents by 40 per cent.

A Green Seal Award, as a certificate of progress, for each company which has reduced its accidents by 20 per cent.

Views on ICC Regs.

Among several committee reports was one by H. O. Mathews, chairman of the Council's committee on ICC regulations. He reported as particularly objectional in the proposed safety regulations those provisions which (1) drastically limit leasing activities, (2) place much more stringent regulations on driver selection, espectially in view of current and anticipated manpower shortages, and (3) tie new strings on the log requirements. It was the consensus of all members that accurate logs for driver-salesmen and multi-stop drivers were all but impossible. The committee also asked for deletion of specific data concerning tire capacities (which fail to take into consideration such added factors as tapering loads and low speeds); clarification of intrastate driving; and modification of the driver vehicle inspection rule.

Officers

Elected to lead the Council's destiny as president during 1951 was Ted. A. Drescher of the Milk Industry Foundation and Borden's Farm Products Co. He took the gavel from retiring President George Faunce, Jr., of Continental Baking Co. Other newly elected officers are:

A. B. Gorman, Esso Standard Oil Co., New York, eastern vice-president; A. H. Kreuder, Wilson & Co., Chicago, central vice-president; P. H. Ducker, Automotive Council, Los Angeles, western vice-president; John J. Riley, American Bottlers of Carbonated Beverages. Washington, D. C., southeastern vice-president, and Robert C. Hibben, International Assn. of Ice Cream Manufacturers, Washington, D. C., treasurer.

END

Please Resume Reading Page 52

THE BIEDERMAN



An All-Star Truck Constructed of All-Star Units Doing an All-Star Job Since 1920

DEALERS: Compare the Biederman National Standard Model with any truck on the market and you will agree that it is an All-Star team in itself.

Only the most sturdily constructed units of America's leading manufacturers are built into it.

Biederman Trucks win by performance. Inquiries regarding dealership solicited.

WRITE, WIRE or PHONE

BIEDERMAN MOTORS CORPORATION CINCINNATI 14, OHIO



on is the frademark of Snap-on Tools Corporation .

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Defense Contracts in Automotive

DEFENSE CONTRACTS have been coming into the automotive industries at an accelerated rate and many more large orders are due to come. Included among recently announced contracts are the following:

HUDSON will build the Wright R-3350 reciprocating aircraft engine for use in several Navy aircraft. Hudson will build the engines under a licensing agreement with Wright-Aeronautical Corp. Neither dollar value of the order nor the number of units involved was disclosed, but it was stated that production would be in the Detroit area. It is an 18-cylinder aircooled engine and is reported to develop 3500 horsepower.

ACF BRILL MOTORS CO. has been awarded three separate contracts for buses totaling about \$19 million. The parent company, American Car & Foundry Co., has been given a letter order in the amount of \$53 million to establish production facilities and start manufacture of interim medium-range anti-aircraft motor gun carriages and spare parts.

CATERPILLAR TRACTOR CO. has been awarded a \$42 million Army contract for machinery for the combat engineers, construction's battalion, and Air Forces engineers. Production will begin in about two months.

GMC TRUCK & COACH DIV. of GM has been given a \$11.5 million order for military buses. It also has been revealed that a previous order of \$100 million for 2½-ton trucks has been increased to \$144 million.

ALLISON DIV. of GM has been given the first production order for turbo-prop engines to be used in Naval aircraft. The first units will be delivered during the last half of this year.

BUICK will build an undisclosed number of cross-drive tank transmissions of the torque converter type. Tooling for the \$65 million order will begin immediately. All forging, machining, and assembly will be done at the Flint plant with part of the work being assigned to the new 170,000 sq ft. addition being built onto the Buick foundry.

AERO PRODUCTS DIV. of GM will build propellers for the Air Forces for use on the Fairchild C-119C cargo plane. Exact quantities of propellers ordered and dollar volume was not disclosed, but the contract is one of the largest for propellers yet made.

PACKARD is expected to get a contract for production of the J-47 jet en-

gine in Detroit. The Air Force has confirmed that it is negotiating with General Electric Co. and Packard on a contract. Packard has been given a \$3.5 million order for diesel engines for the Navy, in addition to diesel development orders totaling about \$5 million.



GATES TRUCK BELTS

"Give 80% Longer Wear... "Give 60% Longer Wear... "Give Costly Road Delays"

Any one of the users of Gates Truck Belts will tell you of similar savings

We list just a few users on the preceding page—representing a wide geographical selection so that wherever you may be located, there will surely be one big operator near you whom you know and can ask frankly about the longer service and better service delivered by the specially engineered GATES TRUCK BELT.

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Every one of them will tell you that GATES TRUCK BELTS save them from 50% to 80% in actual V-belt costs alone. And they will tell you of another saving that is far more important than this very substantial reduction in V-belt costs.

Saving Road Failures that cause Costly Delays is Even MORE IMPORTANT

Every user of GATES TRUCK BELTS men-

tions particularly the great reduction in road delays on units that are equipped with these belts—and there is little wonder that they emphasize this saving.

Delays on the road naturally cause disappointment to your customers who are often waiting anxiously for delivery of important shipments. Even worse than that, road delays cut down the precious net operating time of your units—and net operating time is, after all, the one thing that pays you a profit.

If you will consult with any of the operators whose names appear on the preceding page, we know you will find their savings from using Gates TRUCK and BUS Belts are so substantial that you will certainly want to have the advantage of these savings for yourself.



Kester Solder



Kester Acid-Core Solder is without equal for automotive work. Made only from newly mined grade A tin and virgin lead. Fluxes chemically correct.

Preferred

Why are Kester Solders preferred by the trade? Because the name Kester stands for top quality, dependability, and uniformity. Kester Acid-Core Solder for general work, Kester Plastic Rosin-Core and "Resin-Five" Core Solders for automotive electrical work.

Saves Time

Get Kester today. You will be amazed at the speed and ease that Kester does even the most difficult soldering jobs. Use Kester once and you will use it forever.

Kester Solder Company

4201 Wrightwood Ave., Chicago 39 Newark, N. J. Brantford, Canada



The Mechanics Standard since 1899



CCJ Reports

Continued from Page 96

British Defense Orders

One of the largest orders for military vehicles in the British rearmament program has been placed with the Rootes Group of England, manufacturers of the Hillman Minx, Humber and Sunbeam-Talbot automobiles, according to information just received from the United Kingdom. Details of the vehicle are not available but it is known that it is for forward area crosscountry use and capable of fulfilling a wide variety of functions. Its engine and fourwheel drive is designed to permit high speed travel over both normal roads and rough terrain.

Octane Rate Hits Record

In line with threatened reductions in the octane rating of gasoline available during the national emergency is an announcement released recently by the National Petroleum Institute. The NPI conducted a survey and discovered that the octane rating of gasoline had met and broken an all time record last summer. At that time, the gasoline sold at filling stations throughout the United States was one-and-a-half to two points higher than during the preceding summer and about one point higher than the winter of 1949-50.

Conference Announced

Materials handling in the trucking industry is the general theme of a conference in Chicago, April 30-May 4. Machines and devices will be on display. Problems involved in the handling of materials will be discussed in sessions on the topics: "Bulk Handling and Storage Methods for Solids," "Yard Handling Methods for Lumber and Building Supplies," "Packaged Goods Warehousing and Assorting" and other related subjects. Three sessions will be devoted to unit loading and packaging methods. Registration in advance may be made by writing Clapp & Poliak, Inc., 341 Madison Ave., New York 17.

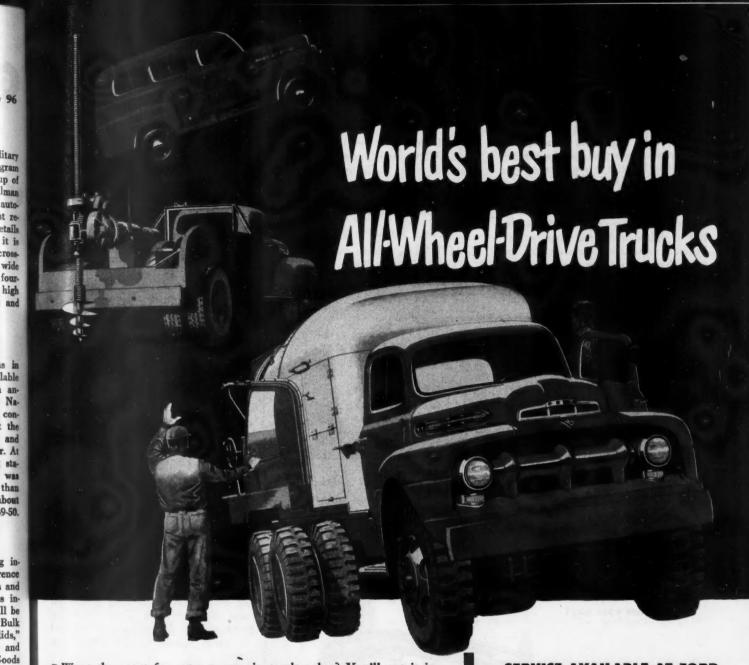
Rubber Declines

New rubber consumption in the month of December declined 2.90 per cent to 94,687 long tons from the 97,515 long tons consumed in November, according to the monthly report of The Rubber Manufacturers Association, Inc.

Consumption of natural rubber during the month was down 13.24 per cent to 43,955 long tons from 50,663 long tons used in November. Use of synthetic rubber totaled 50,732 long tons, an increase of 8.28 per cent from the 46,852 long tons used during the previous month.

Consumption of reclaimed rubber by the industry was estimated at 29,372 long tons, 1.44 per cent lower than the 29,800 long tons used in November.

(TURN TO PAGE 156, PLEASE)



Want the most for your money in truck value? You'll get it in Marmon-Herrington All-Wheel-Drive Fords-world's lowest priced multiple-drive trucks. What's more, you'll get performance-ability not exceeded by any other trucks on earth-regardless of price.

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Marmon-Herrington All-Wheel-Drive Fords give you virtually the tractive power of crawler tractors, plus truly amazing speed and maneuverability. Masters of deep mud, sand or snow, steep hills and mountain grades, they handle toughest assignments with astonishing speed, ease and economy.

There are 30 Marmon-Herrington All-Wheel-Drive Ford models in all. Wheelbases range from 110" to 220"-G.V.W. from 5,300 lbs. to 35,000 lbs.-forward speeds from 4 to 10.

For a demonstration of almost unbelievable performance-ability, see your Marmon-Herrington dealer-or write for literature.

ARMON-HERRINGTON COMPANY, INC.

1521 W. Washington St., Indianapolis 7, Indiana

MARMON-HERRINGTON All-Wheel-Drive

SERVICE AVAILABLE AT FORD DEALERS EVERYWHERE . . .



Marmon-Herrington All-Wheel-Drive Fords are, for the most part, built of standard Ford Parts. Consequently,

fast, efficient, low-cost maintenance and repair service is available at Ford dealers everywhere. When, occasionally, special parts are required, they are quickly obtainable through Marmon-Herrington distributors, conveniently located in principal cities the world over.

White Plans For Defense Needs

Continued from Page 66

parts. While this data presently is shown on various parts of the vehicle, use of the identification plate simply is intended to reduce the number of places where this information must be found to one. In addition to the basic data, space is provided on the bottom line of this identification plate for any Federal registration number, in the event that this may be required.

In addition to the metal identification plate, White vehicle owners will be supplied with distinctive windshield stickers, as shown in Fig. 5, to indicate their cooperation with this emergency conservation program.

Parts Location System

EACH White vehicle owner will be supplied with a White Service Sta-

tion Directory. White motor vehicle owners will be assured a supply of needed parts for their vehicles at the station indicated in the directory whether it be a factory branch, distributor or other organization.

These "official" service stations will be supplied the necessary parts through the inventory control system established at the factory. If, due to some unforseen demand for certain types of parts, the allotted supply at the local service station should be depleted, the factory, through its inventory control system, can locate the required parts from the nearest point to the requisitioning service station in a relatively short time.

This decentralized parts storage and supply system should obviate the need for even the smallest dealer having to contact the headquarters at Cleveland when parts are needed quickly. Thus, it seems to insure minimum "down" time for any vehicle.

Customer Order Form

TWO types of parts order forms are being supplied to White vehicle owners. The forms, measuring 73/4 x 11 in. are supplied in standard pad form and in a special, self-mailing form. The latter is designed to be folded, sealed and mailed without the use of a regular envelope. The reverse side of this form contains the name of the nearest source of supply of White parts-usually the place at which the vehicle was registered. This merely is a means of expediting parts ordering for fleet maintenance men located at some distance from their source of parts supply. No postage is required on these special, self-mailing order forms.

The standard form also can be used in the same manner, although it does not contain the postage-paid feature. It is generally used when parts are to be personally picked up locally by the fleet's maintenance department. It is the same form used by White sales personnel.

Parts Conservation Bulletins

SPECIAL ESC parts bulletins will be mailed direct to registered White owners by the factory's Parts Service Department in Cleveland. As outlined in the 10-point program, these parts will deal with conservative and reclamation hints and provide general maintenance information.

From the standpoint of conservation, White owners will be notified of any impending shortages and will be given detailed information on the procedures for salvaging and reclaiming parts to give them a second lease on life. Users also will be told which basic parts are

(TURN TO PAGE 114, PLEASE)

INSTALL THEM WITH CONFIDENCE IN BADLY WORN CYLINDERS

Install Burd Super Hi-Speeds with your best "know-how" . . . then relax. For everything about these fine-as-they-come piston rings is in your favor. A specially designed, wide-channel cast iron ring—plus a properly ventilated expander—assures uniform contact over the entire cylinder wall. Then two steel segments positioned below the cast ring produce additional wiping action without excessive wear. So install them with the assurance that Burd Super Hi-Speed Combination Sets will control oil better in any tough cylinder job that comes your way!







As standard equipment on Eager Beaver Army Amphibious Trucks (built by Reo Motors, Inc.) the Holley Built-In Centrivac Governor proves itself on land and water—on rough terrain or incredibly steep grades.

THE MOST ADVANCED

TYPE OF ECONOMICAL

GOVERNOR CONTROL

It governs speeds perfectly—from full load to no load gives smoother, steadier flow of power, responds instantly to every load and road contingency—without surging, choking or stalling. Engine accelerates perand tear on driver's nerves.

Also available for standard truck engines as a sandwich type (to fit standard carburetors) or as built-in complete Holley Carburetor and Governor Unit. Write or wire for the facts on Centrivac—the most advanced type of economical governor control yet developed.



DETROIT S, MICHIGAN

UTOMOTIVE EQUIPMEN ACCESSORIES

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White's Plan

Continued from Page 112

being reclaimed by the various White service organizations, in case the owner does not have facilities to do this work himself.

The maintenance information will attempt to keep White vehicle users posted on improved maintenance methods. The latest technical "know-how" will be brought to the owners attention as developed.

Unit Exchange Plan

DURING the last war, The White Motor Co. employed a unit exchange plan which embraced such major component parts as the engine, transmission, clutches, compressors and rear axles. The success of this plan led White to continue and expand this service after the war. It will be developed to a greater extent under the ESC program.

White vehicle owners now will be able to obtain the following parts on the unit exchange plan: Engines, transmissions, rear axle, fuel pumps, generators, oil pumps, starting motors, carburetors, clutch, clutch plates, relays, air governors, booster cylinders, brake cylinders, water pumps, windshield wiper motor, voltage regulator, air compressor, torque rods and hand application valves. These parts will be rebuilt to factory standards at the various factory branches and made available to every White vehicle parts supply station

Driver Training

BECAUSE parts conservation is closely allied to the manner in which vehicles are operated by their drivers, The White Motor Co. will encourage, through its field personnel, driver training meetings. Data contained in the White Driver Manual will be used as a basis for the meeting programs.

In this way, The White Motor Co. hopes to derive longer life and greater efficiency of their vehicles now in service. This should prove to be a boon to truck owners who may be classified as being in "non-essential" industries, as in the last war.

Service Facilities

THE ESC program embraces an extension and enlargement of the general maintenance facilities offered by White. This is designed to assist fleet operators whose shop facilities are not adequate for complete service and unit overhaul work.

Also, where manpower shortages may reduce fleet shop personnel, White will endeavor to provide all needed maintenance services. Here, also, fleets can obtain needed assistance in training their own personnel in specialized maintenance methods.

Preventive Maintenance

W HITE vehicle owners will be supplied with preventive maintenance forms, such as developed by White during the last war, and used successfully since in connection with its guaranteed service contracts.

These forms embrace a general lubrication chart for each model of vehicle owned by the fleet operator, and a set of A, B, C, and D preventive maintenance inspection and operation forms. These forms outline fully all the work required at the various recommended mileage intervals.

END

Please Resume Reading Page 68

HEAVY-RIBBED GUNITE BRAKE DRUMS ARE NOW HEAT-TREATED IF DESIRED

All the superior qualities of the famous Heavy-Ribbed GUNITE Brake Drums have been retained and still further improved by this new GUNITE heat-treating process. Normalized GUNITE Brake Drums are heat treated to bring you greatly improved wearability of the drum. Thus GUNITE offers you longer drum and lining life. You get lower cost per mile with GUNITE Brake Drums.

Write for name of your nearest GUNITE Distributor

GUNITE FOUNDRIES CORPORATION

THIS BRILLIANT NEW Zu Britain RATCHET REALLY There are many New Britain Tools with the soundness, quality and all 'round utility that excite admiration among mechanics . . . but this new Ratchet is so beautifully engineered, so tough, so sweetly balanced that one feel of it - and you're sold! It has everything . . . rugged strength, comfortable grip, triple plate, chrome finish and a s-m-o-o-t-h action that whips through work like a dream . . . in short - this New Britain Ratchet CLICKS, and how!

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This 50 piece New Britain Utility Tool Set includes both %" and %" Drive Sockets and Drive Parts together with most used Flat Wrenches and Screw Drivers.

Check with your Jobber. He has this brilliant new Ratchet in 1/4" - 3/8" and 1/2" Drive and a complete Line of New Britain Tools to go with it. So, no matter which New Britain Tool you need... remember it's no further away from you than your telephone. When you need a Tool - and, you do need this new Ratchet -PHONE YOUR JOBBER! The New Britain Machine Co., New Britain, Conn.



Many Britain

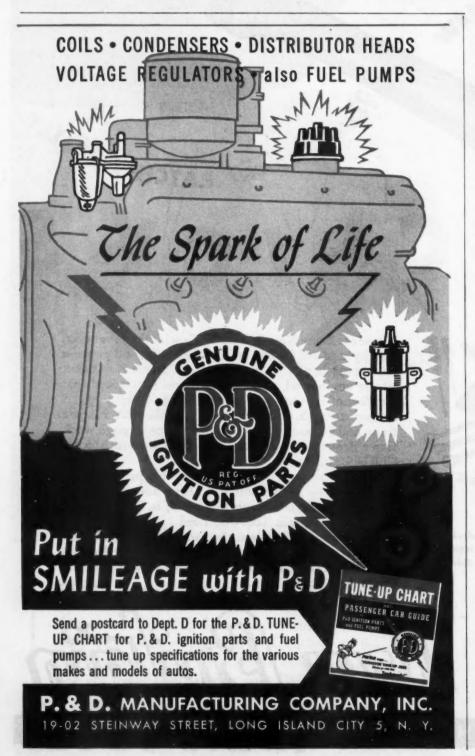
GREATER STRENGTH . BETTER FIT

COMMERCIAL CAR JOURNAL, March, 1951

115



These three new pumper-hose wagons cost a little over \$5000 apiece. Two new 85-ft. aerial ladders will cost \$10,000 each



embarrassing breakdowns of the equipment on the city's streets; fortunately, mostly upon returning from fires. It almost got to the point where the smoke eaters wanted the maintenance boys to follow them on every call.

Like all government budgets, Atlantic City's was rising to new heights. Unlike most governments, the taxable items of this popular resort town of 62,000 people offered little diversity and opportunity to net enough to cover the requirements of a 362,000 summer population. Any appropriations for new fire fighting equipment would, in all probability, have to be derived from new real estate taxes. In anticipation of such a procedure, Chief Farley asked Tom Campbell to give him some idea as to what kind of moneys would be needed for a long-range vehicle replacement program.

The days that followed were filled with discouragement. Tom searched far and near; by mail, telephone and personal calls. He got prices on fully equipped, partly equipped and stripped vehicles. All were much higher than anything that the Department spent in the past. When Tom took his findings to the Chief, there was no rejoicing; there was little hope. The new 85-ft aerial ladder truck the Chief wanted would cost \$35,000 and hose trucks with high-pressure pumps would cost about a third as much, assuming reasonably competitive bidding.

These men knew that it would be useless to submit such estimates to the city commissioners. The local tax payers, like those of every other municipality, were grumbling about the high costs of living, increased municipal, state and federal expenditures, and so on. To ask them for more money to rehabilitate their fleet of fire-fighting vehicles, no matter how vital to the safety of the community and its visitors, seemed foolhardy. The Chief would rather fight a fire bare-handel. and he knew the commissioners would rather take a hornet's nest apart than ask for additional tax increases.

It was then that Tom Campbell suggested that perhaps he and his boys at the shop might try to build a truck or two—just to help out in the present emergency. That was all the Chief needed to bolster his hopes. He knew that Tom and his boys practically remade the old vehicles time and time again. He believed that, given needed parts, they could build new ones. Before Tom could put a verbal period on his sentence, the Chief was off to see the director of safety.

Director Cuthbert knew that even the price of one ladder truck could not be fitted into the budget as it was then shaping up, yet he wanted to do something. The kidding he was getting about the fire fighting equipment was not to his liking because of its seriousness. He put it up to the commissioners but they just shrugged their shoulders hopelessly.

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Business Men Back Project

THEN certain real estate, business and civic organizations approached both the Director and Chief Farley. They started to ask for more details about the general condition of the fire fighting vehicles and plans for replacement of the most antiquated units. Finally, the news got around that Tom Campbell was willing to build new vehicles if he was given sufficient funds to buy the necessary parts.

The real estate group contacted the commissioners; the Chamber of Commerce, the hotelmen, the service clubs and others did the same. The local newspapers put their weight behind

the movement.

Then, one day, Chief Farley called Campbell. He asked Tom what he could do if—and it was a big IF—the Department got a \$35,000 appropriation; the cost of one new, first-class aerial ladder truck.

What Tom did made front-page news in all the local newspapers—and he isn't finished.

Pumpers Head Campbell Caravan

WHEN Chief Farley got his appropriation, he and Tom got into a huddle as to the number and types of vehicles that could be obtained in the soonest possible time. It was hard to decide because replacements were needed in all classes of vehicles. As Campbell leafed through the sheaf of price data he collected during the previous months, he told the Chief that he thought it was possible to build three high-pressure pumpers and two 85-ft aerial ladder trucks. The Chief was delighted to hear this. It exceeded his highest expectations. He returned to the City Hall to set in motion the for-

malities for procuring the chasses and other necessary equipment.

The decision as to which types of vehicles to build first was left entirely to Tom Campbell's judgment, for he knew, better than anybody in the Department, the exact condition of every vehicle. Tom decided to tackle the pumpers first.

Therefore, the first purchase made by the Department was three Ford F-6 chasses, 158-in. wheelbase, and certain basic body parts which could not be fabricated in the Department's maintenance shop. As soon as the chasses and body parts arrived, Tom brought the oldest pumper into the shop. It was one of the old chemical trucks, converted into a high-pressure water pumper by Campbell and his boys some years previously. There was nothing wrong with the hose or pumps. The vehicle itself was over-aged, even though its painted surface was without a blemish and the brass trim and equipment had a mirror-like polish. It was a veteran when most of the hosemen were grammar-school kids.

(TURN TO PAGE 118, PLEASE)



HEAVY TRUCK UNIT—

AEROL capacity 1500 lbs.

Handles heavy units as easily as lighter units.



GAS TANKS— Remove gas tanks without draining tank.



WHEELS—
Raise frame of car to remove wheels
when lender skirt is in the way.



AEROL LIFTS

REMOVE
INSTALL
POSITION
UNDER-CHASSIS UNITS

in a Jiffy...

Do more jobs—do them quicker—with an AEROL LIFT. The AEROL LIFT is built for easy, one-man operation. The AEROL LIFT raises the heaviest truck transmission to bench height (37") and holds it in position. Can be used as a floor model or 2-post hoist model. Hydraulic jack removable for emergency use. The AEROL LIFT is the most versatile unit lift built—at a price you can afford.

Write for Catalog today or see your favorite jobber.

THE CLEVELAND PNEUMATIC TOOL CONTROL OF Automotive Division on the AEROL UNAME Address	o. lio FT.
Address	



Five Fire Trucks . . .

Continued from Page 117

Spare-Time Production

TOM examined the old pumper very carefully, noting in detail every salvagable part. There were certain parts that were in good condition but, because of their antiquated design, he decided to substitute them with practical improvements of his own.

It was weeks before Tom actually got under way. First, the job had to be squeezed into whatever spare time was available. Just then he had some major overhaul work that had to have precedence.

Material delays also were responsible for the late start. Some of the special hardware that Tom ordered was delayed in shipment. Then, there was a hitch or two in the delivery of the sheet metal Tom wanted to use. Some of the supply items were not available locally, so he had to find them out of town.

About the time Tom was ready to start, his top assistant, the shop foreman, became ill and was obliged to take an extended sick leave. And so it went; it seemed that the fates were militating against the project.

Tom's patience outlasted his troubles. Bit by bit he got under way, removing the usable parts from the old pumper. About this time, the materials started to arrive and the basic framing got under way. Tom was given additional help—a welder-mechanic who proved to be a valuable hand.

Cut-and-Try Construction

TOM had no blueprints, drawings or patterns to go by. But he knew what he wanted and applied the old cut-and-try method of construction. The body on the old hose wagon was 48 in. wide, and held about 650 ft of $2\frac{1}{2}$ -in. hose and 75 ft of $1\frac{1}{2}$ -in. high-pressure hose. The running boards on each side were about 2 ft wide, as was the rear standing platform.

Tom increased the body width by 6 in., to a total of 54 in., and raised the sides about 8 in., not counting the grab rail which was mounted on top for the full length of both sides. Instead of finishing the end of the body square, he extended it at the bottom to give it a streamlined effect.

Widening of the body took about 3 in. off each side of the running board, but the remainder was more than adequate, and increased the body capacity to hold 1500 ft of 2½-in.hose, or better

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Five Fire Trucks . . .

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than 100 per cent more than the old hose wagon.

A number of innovations developed by Campbell added to the appearance of the body and efficiency of operation. For example, a large tool box that cluttered the running board of the old pumper was replaced by a built-in tool hox under the floor at the rear of the body. Access to this tool compartment is gained by an 8 x 24-in. panel with a full-length hinge.

Three sizes of hose are carried on this truck: 21/2-in. on the bottom floor, 11/2-in. on a three-quarter length tray and 34-in. in a smaller tray up front. The tray holding the 11/2-in. hose is hinged at the front end, so that if access is needed to the 21/2-in. hose, it can be raised and locked in position for unobstructive accessibility. If the 11/2-in. hose is required, it can be readily withdrawn from the large tray.

The 3/4-in. hose is coiled in a smaller tray that runs the full width of the body and is about 18 in. deep. It is made of sheet metal with a strap iron bottom. All corners and joints are

The tray for the 11/2-in. hose and the flooring of the body that holds the 21/2in. hose is made of 4 x 3/4-in. oak strips bolted on strap iron, framed by 2-in. angle iron.

The high-pressure pump is attached to the chassis frame directly behind the cab. Because of the narrower body width from which the high-pressure equipment was removed, the pump nozzles and valves were recessed into the body. Rather than give the impression of make-shift construction, just the opposite effect was obtained. The recessing reduces the extension of these valves over the running board, giving a generally more pleasing effect, and increases the safety factor for the hosemen.

To obviate the need for entering the cab to declutch the engine when connecting the power take-off for the highpressure pumps, Tom designed and constructed an extension lever which comes out through the rear of the cab on the running board just a few inches from the high-pressure valves and couplings. Thus, all controls are readily accessible at one point. This adds to the speed and efficiency with which the high-pressure stream of water can be

A 200-gal water tank is carried directly under the high-pressure hose tray at the front of the body. The amount of water carried is sufficient for 15 minutes of pumping, independent of any fireplug or other water supply connection.

Professional Finish Achieved

PERHAPS the most telling observation about this pumper hose wagon. and the two others that followed it, is that nothing about them looks homemade. The running boards are rounded off at the corners, round molding finishes off the trays. The welding job is so smooth as to be almost unnoticeable.

The shop-made brackets and other hardware was chrome plated. The painting was done in the department's own paint shop, and the finish is superior to the average production line job. The lettering, which outside estimates valued at \$250 in gold leaf, was applied by the department's high-speed letterer in gold paint for only about a \$2.50 labor charge.

All parts transferred from the old pumper were thoroughly reconditioned. Such parts as brackets, fixtures, the bell, and so on, that were mounted on

(TURN TO NEXT PAGE PLEASE)

A NEW DIMENSION IN

CLUTCH SERVICE

You get more miles of trouble-free service from these new, complete clutch units. Take less time to install, too! And you're sure of full clutch release and smooth clutch engagement.

Cost the Same . . .

... although you pay only the regular price for the new Accurate Powerflex clutch plate and the rebuilt Re-Nu assembly, you get the PLUS VALUES of a matched, mated, tested, balanced, complete clutch unit at no extra cost!

Write for FREE Catalog & Prices!



New POWERFLEX Plate

PACKAGED TOGETHER WITH A

Rebuilt RE-NU Assembly

MATCHED • MATED • TESTED BALANCED - COMPLETE

CLUTCH UNITS

OUTRIGHT! EXCHANGED OR SOLD FOR ALL POPULAR CARS AND TRUCKS



Accurate PARTS MFG. CO. 12435 Euclid Ave.

MANUFACTURERS OF THE POWERFLEX CLUTCH PLATE

REPLACEMENT UNIT CO. 1505 Rockwell Ave. Cleveland 14, Ohio

REBUILDERS OF GUARANTEED CLUTCH ASSEMBLIES

COMMERCIAL CAR JOURNAL, March, 1951

Five Fire Trucks ...

Continued from Page 121

the outside of the vehicle, were plated or polished to match all new parts. It is impossible to tell which parts are old and which new.

Pumpers Cost \$5000

THE total cost for the three pumpers was \$15,348.37, complete. This brings the cost of each vehicle to

\$5,116.16. No one can deny that Atlantic City got a bargain.

Of course, it took months before these vehicles were completed. But, even on this score, the department was unable to get definite promises for quick delivery when inquiries were being made at the time the first replacements were being considered.

The maintenance personnel cooperated wholeheartedly and with enthusiasm. Sometime the spare time needed for the new work was very scant. It takes a lot more work to maintain old vehicles than new ones, and there is

never the certainty that a repair on an old truck will last any appreciable time. Perhaps it was a thought that soon the mechanics would have new



The 1½-in, hose trays on the pumper swing on special aluminum fixtures designed by Campbell. He is shown above milling one of the brackets as Erdman, below, turns one of the pins



and modern vehicles to work on that spurred them on to finish the new ones. In any case, each man takes definite pride in his contribution.

Aerial Ladder Trucks Next

THE first of the aerial ladder trucks is nearing completion. These new vehicles will replace two veteran ladder trucks now in service. Not only will they be desirable replacements from the standpoint of being new automotive vehicles, but they also will permit more efficient and safer operation due to the various new features of the body construction.

When the bill for the hose wagons was paid, the balance on hand was \$19,651.63. Of this amount \$6,877.80 then was spent for the F7, 135-in. chasses for the aerial ladders, and \$8,870.68 for necessary castings, materials and parts. According to Tom Campbell's mathematics, this leaves almost \$4,000 for needed materials to complete the ladder trucks. He feels quite certain that this balance will be adequate to do the job.

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PETERBILT'S ALUMINUM C.O. E. TRACTOR TAKES A BOW



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SEND FOR FREE TRAILER BOOKLET

Military needs now limit the aluminum we can supply for trucks and trailers. But this 36-page "Payload Proof" book will give you valuable help in your long-range planning for more profitable equipment. Write ALUMINUM COMPANY OF AMERICA, 1876C Gulf Building, Pittsburgh 19, Pennsylvania.

C. O. E. (cab over engine) means more allowable length for payload space. Aluminum construction means more allowable payload weight. Put the two together in a tractor, and you have a unit that will help you earn more, let you spend less.

Weight of this model, made by Peterbilt Motors Co., Oakland, California, has been reduced by 1500-1750 lbs. Frame is extruded, heat-treated aluminum alloy. Entire cab, frame castings, rear axle housing, hubs, brake shoes, wheels also are Alcoa Aluminum. Cab tilts forward for convenient removal of engine.

More than ever, "Extra payload is the payoff!" when you operate equipment made of Alcoa Aluminum.

ALCOA
First in Aluminum

THE METAL THAT LASTS



Five Fire Trucks . . .

Continued from Page 122

As in the case of the high-pressure pumpers, much will be salvaged from the old ladder trucks in the construction of new ones. Practically all needed new materials are on hand, so no difficulties due to shortages created by the present emergency is anticipated to finish the ladders.

The old ladder trucks had the ladder suspended on the sides. The new ladders will be nested within the framing of the new vehicles. The principal framing consists of two 10-in. I-beams. The superstructure consists principally of 2-in. angle iron on which the ladders will be tiered. Cold-rolled steel framing supports the angle iron. Necessary tools and implements will be carried in a compartment constructed amid-ships under the chassis frame. Most of the framing and superstructure has been welded, for maximum strength, although where future replacements

may be necessary, cold rivet fastening also is being employed.

As in the case of the hose wagons, the ladders are being constructed by the cut-and-try method. As in the case of the other vehicles, there was no risk involved in this method because Tom was thoroughly familiar with every part of the old*ladders.

Not only is Tom an able craftsman, but for years he had been answering second alarms. His knowledge of the fireman's needs, therefore, is first-hand. He had improvements in mind before he tackled the job, and he knew exactly how he wanted to handle them. The almost complete first ladder truck, which entailed no spoilages or mistakes, seems to prove that it is possible to do a big job like this without detailed blueprints.

As this report is being written, Tom Campbell has just completed a uniquemethod of braking to prevent jack-knifing. Because the brakes have not as yet been road-tested, Tom prefers to omit the description of this detail.

The first ladder is ready for the paint shop. The chassis and material for the second ladder truck are ready for the "production line." Consulting his cost sheets, Tom figures that the first ladder will cost just a few dollars under \$10,000, which is a pretty good deal for the municipality.

END

Please Resume Reading Page 70

Hose Catalog Ready

A revised edition of The Weatherhead Reusable Steel Hose Ends and Industrial Hose Catalog is now available.

Pennsylvania to Spend 2 Billion on Roads

In a recent announcement of the Highway Planning Commission of the State of Pennsylvania a 12-year road building program was outlined. The plan is of large scale, perhaps the largest ever developed in the United States.

The objective is a system of roadways, urban and rural, "up to standards adequate for 1962 traffic and maintenance." The plan says that money will be provided for local, rural roads, grants to townships, boroughs, and other units will be increased, expressways will be built, and in general the physical condition of the state's road system will be revitalized.



If you have a little trouble these days getting a particular Blue Streak ignition part, don't blame your jobber; blame our chief engineer. Because if a shipment of raw material isn't premium grade, he just won't use it; even if there's a pile of telegrams in the front office this high from customers who are howling for their orders. But when you do get it, and it says "Blue Streak"—mister, you know you've got the real thing, the McCoy. STANDARD MOTOR PRODUCTS, INC., Long Island City 1, New York.

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The DIETZ Self-Cancelling Direction Signal Switch—No. 111-C—illustrated above—operates at the flick of a finger, then returns to neutral—Automatically. Complete with Flasher for unmistakable Signalling. Easily mounted on all 1½" to 2" diameter steering posts. Noncancelling type Switches also available. All DIETZ Lights and Switches Tested by Electrical Testing Laboratories. Available from your Jobber now! R. E. DIETZ COMPANY, 225 WILKINSON STREET, SYRACUSE 1, NEW YORK.



CLASS "A" TYPE 2 SIGNAL LIGHTS WITH DIRECTION ARROWS

Outstanding Class "A" Type 2 Direction Signal Lights. Bright AMBER arrows on black backgrounds. Characteristically rugged DIETZ construction.

DIETZ Switches and Lights are available individually or in many popular set combinations. Perfect for new installation and replacement. Class "B" DIETZ Direction Signals for passenger cars and commercial vehicles under 80" wide also available.

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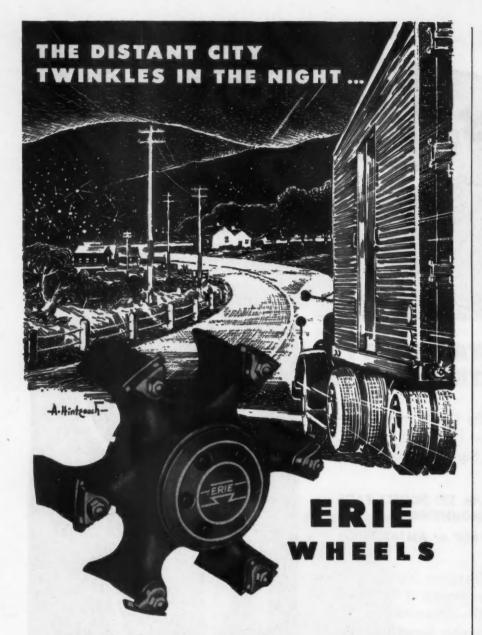
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Rolling the Big Rigs day and night safely to destination over the Nation's vast highway network demands the qualities combined in Erie Wheels . . . Rugged Strength, Toughness, Lightweight . . . Malleable Iron Resiliency to absorb road shocks . . . Full Tubular Spokes to prevent unbalance. For 25 years Erie Wheels have stood high in the Tradition of Transport.



ERIE MALLEABLE IRON COMPANY



Automotive Wheel Division ERIE • PA.



Dry Sleeve

Continued from Page 70

realize that subsequent ring troubles may have resulted from their action. Fortunately, most of the industry now supplies criss-cross hone finishes on the inside of cylinder sleeves and it is a rare shop that does not utilize the roughness to accomplish faster and better ring seating.

Piston rings have also been redesigned to seat faster. Some of the improvements include the use of tapered ring faces, increased ring tension and decreased face surfaces to provide less metal to metal contact between wall and rings. In addition, most rings are now covered with a coating to assist the seating action.

When the above improvements are coupled with modern "break-in" methods, little trouble is reported on piston ring performance. Successful shops now agree that not less than a 5 hour run-in at about 1500 rpm is necessary to accomplish ring seating, and all agree that the break-in should be with non-detergent oils, regardless of what is to be used in the crankcase during regular service. The most successful shops favor using a very light nondetergent oil cut with 25 per cent diesel fuel for the break-in period-then draining and re-filling with their preferred regular weight oil for later service. These shops, after breaking in engines in this manner, have dissembled the working parts for inspection. All report no harm done to bearing surfaces, but some "scuffing" being oc casionally visible on pistons. Subsequent investigation has disclosed that such "scuffing" came from tight spots that might have caused an engine failure if the break-in period hadn't established clearance. All shops reported piston ring seating was accomplished far better than by any other method tried.

Block Distortion and Warpage

MANY reasons have been advanced as to the causes of block distortion. Almost everyone now agrees that distortion can be attributed to any of the following, or a combination of all:

- 1. Material used in sleeves.
- 2. Sleeve fitting.
- 3. Improper and irregular heat dissipation.
- 4. Improper and excessive tightening of engine bolts and studs in block.

In the earlier days of sleeve fitting, both engine blocks and sleeves were (TURN TO PAGE 128, PLEASE)

(TURN TO PAGE 120, PLEASE)

Will he Buy your Truck Next Time?



CARBURETORS



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No manufacturer could long exist in the competitive commercial vehicle field without drawing heavily on previous owners for new vehicle sales. It is perfectly obvious, no owner would buy the same make vehicle again and again unless it has delivered satisfactory performance. Therefore, it is just good business to see that every component contributes its share toward building owner loyalty. That's why manufacturers whose vehicles are Zenith* equipped measure carburetion costs in lasting terms rather than initial expense. In the field of heavy-duty carburetion, one name, Zenith, has stood for lasting satisfactory performance for over a quarter of a century. Zenith's rugged construction, strong idling, freedom from stalling and response to every demand make it the engineers' choice. For good will, it's good business to specify the best-Zenith for lasting performance.

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AVIATION CORPORATION

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

Dry Sleeve

Continued from Page 126

"sand cast." This merely meant making a sand mold and pouring in melted metal to form a casting. With the same material and methods used to make both sleeves and blocks, no problems arose from the prevalent practice of installing dry sleeves with a "heavy press fit." Consequently almost all sleeves were fit after the block had

been bored with a slightly smaller hole than the outside diameter of the sleeve—and then forcing the sleeve into the bored hole. Thus, a sleeve with an outside diameter of 4 in. might be forced in a hole measuring 3.996. This "press fit" provided a metal to metal contact that allowed unrestricted heat transfer from the combustion chamber to the coolant and also supplied a solid backing support for the sleeve.

In late years, "sand casting" was replaced in most manufacturing plants by "centrifugal casting." In "centrifugal casting," a mold is laid on its side melted metal is fed to the inside—and the mold is spun until the metal has solidified. The mold is then opened, the sleeve removed, and the process repeated. The same mold is used over and over, so "centrifugal casting" reduces manufacturing costs by doing away with the costly preparation of sand molds. Also, "centrifugal casting" forces the melted metal against the side of the mold in the spinning process, and the sleeve emerges somewhat harder than a sand casting.

"Centrifugal casting" seemed to be a step forward for the sleeve industry. Faster production - lowered manufacing costs-and what appeared to be a better product. Most manufacturers adopted the process and the new "hard" sleeve was offered to the repair trade as an improvement. Shortly after centrifugally cast sleeves were supplied to the field, repair men began to encounter unusually severe block distortion, and quite frequently, block breakage. Subsequent field reports indicated that engine heat expands some centrifugally cast sleeves slightly faster than the sand cast blocks in which they are inserted. Thus, at least a portion of the newer sleeves seemed to be forcing the blocks out of shape owing to the different rates of expansion. Apparently because of this, new sleeve fitting recommendations began to come through. Each new recommendation suggested loosening sleeve fit until the industry came to the point where many sleeves were being installed without wall support, and in fact, so loose that they were only held in place when the head was bolted over them.

Shortly after these new sleeve fitting recommendations were put in field practice, new troubles began to be reported from repair shops. Burned valves, seized rings, and other burned parts indicated that combustion chamber temperatures had risen. Fingers soon began to point at the air pocket behind loose fitting sleeves since those pockets provided an insulation that obstructed the transfer of cylinder heat to the coolant. Most operators now agree that maintenance costs rise as heat transmittal is retarded, and the trend is again to a tighter fit, though it is still believed that such fitting may be contributing to block distortion.

Cylinder Lubrication

DURING the same period that block distortion was becoming prevalent, upper piston ring failures and excessive wear of top piston lands brought the realization that upper cylinders were running dry. The problem was studied and a simple experiment point-

(TURN TO PAGE 130, PLEASE)





"FRAM Lubri-Graf helps us correct motor trouble before expensive repairs are necessary"

Portsmouth, Va., Shop Foreman, tells how the amazing Fram Lubri-Graf pays off by providing positive checks on engine, oil and filter condition . . .

"The Fram Lubri-Graf makes my work easier, saves us money. Tells the internal condition of the vehicle, enables us to correct motor trouble before it causes expensive repairs. We can use each cartridge longer because the Lubri-Graf tells us when to change . . . eliminating all guess work. I'd recommend the Fram Lubri-Graf to all fleet owners."

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Use the Lubri-Graf on your engines

and get the same outstanding results. Use Fram Filters and Cartridges for longer, higher performance at lowest clean-oil cost per mile.

There are Fram Filters for every fleet job . . . Fram Cartridges for most every make filter. And only Fram offers you Complete Engine Protection to guard fleet engines at every vital point.



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Dry Sleeve

Continued from Page 128

ed the way to an answer that is currently accepted by the industry. The experiment consists of securing a sand cast and a centrifugally cast sleeve—setting them both upright in a shallow pan of oil overnight. By morning it will be noted that oil has crept up the sand cast sleeve to a height of several inches while the centrifugally cast

sleeve will remain dry almost down to the level of the oil in the pan. This indicates that semi-porous sand castings will hold oil and allow it to "creep" by capillary attraction. Ordinary centrifugally cast sleeves, on the other hand, are less porous and have such smooth surfaces that oil finds little to which it can adhere.

One of the fundamentals of long engine life is to have moving parts ride on a film of oil rather than rubbing together. The more perfect the lubrication film—the longer the engine life. And here is reason to suspect that pis-

ton rings wipe centrifugally cast sleeves virtually dry on every stroke when no pores exist to give the oil a foothold. Current field reports substantiate the theory that only sand cast sleeves allow natural upper cylinder lubrication.

In spite of this evidence, howeverr, some piston manufacturers attempted to correct upper land wear by the insertion of a steel ring in their pistons —and then machining the steel insert to form a ring land. The reasoning apparently being that steel would resist wear longer than aluminum and so give longer piston life. A certain amount of success has attended these efforts as far as prolonging piston life is concerned, but rings apparently fail as quickly as before. At the same time, field reports show approximately the same piston life without steel inserts -IF-upper cylinder lubrication is accomplished, and almost all reports agree this is only done with sand cast sleeves.

Fitting Sleeves

A LMOST all evidence has pointed to the desirability of sand castings for sleeving of internal combustion engines, and a number of manufacturers are again producing this type of material in addition to one leading producer who never had changed. However, many centrifugally cast sleeves are still being supplied to the field and repair men who have a preference for either type will do well to read the manufacturer's descriptive literature to determine which kind is being supplied. For example, The White Machine Works, makers of Superior-Arrowhead sleeves, state in their catalog, "Our sleeves are vertically cast," whereas G.M.C. literature says, "Liners are made of hardened, centrifugally cast alloy iron."

For a number of years, only standard outside diameter sleeves were available for the engines under discussion. This left the repair man with only two possible ways of correcting distortion so the inside of the sleeve wouldn't seize the piston. One method was to hone the block before sleeve installation. This, of course, oversized the hole and made it impossible to fit sleeves for proper support or heat dissipation. The other method was to attempt to hone the sleeve after installation. Neither method was particularly successful if for no other reason than that few men can bring a hole into round with a hone. The usual result of such honing is only to enlarge the hole without correcting the distortion.

This was further complicated as service men discovered that block holes were not uniform in size even on new (TURN TO PAGE 132, PLEASE)



the NEWAY Tandem Axle gives you:

- LOWEST POSSIBLE UNSPRUNG WEIGHT
- EASY RIDE AND EASY HANDLING
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MILEAGE MATCHED for ROAD AND LOAD gaste REVERSE

GATKE Mileage-Matched Brake Block Sets Proven combinations of Brake Block Materials, engineered for balanced action and Mileage Matched for Road and Load.

GREAT ADVANTAGES for FLEETS GATKE A-B-C
3-piece Tapered Brake Blocks
The new 3-piece design puts the right Brake Material in the critical braking area.

- Combinations of improved Brake Block Materials — Mileage Matched for Road and Load.
- 2. Greater Holding Power for positive deceleration control.
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- Maintain new drum surface condition—increasing drum life.
- Dependable braking at all operating temperatures.
- 6. More miles and lower maintenance expense.
- 7. Smooth, quiet operation—no squeals.

Ask your GATKE JOBBER or write.



Dry Sleeve

Continued from Page 130

engines. In fact, I.H.C. had gone so far as to stamp the tops of blocks with letters such as "A," "B," and so forth, to designate oversizes. Even these markings became valueless as more and more blocks were honed—and finally manufacturers were forced to the realization that the variation in hole sizes was entirely out of hand and

most standard outside diameter sleeves were hanging loose in the engine blocks. In recognition of this problem, factories began to produce sleeves with oversized outside diameters. Sleeves are now available in .010, .020, and .030 oversizes, and it is possible to bore blocks and fit oversized sleeves to any degree of tightness after distortion has been removed. In the case of "sand castings," a uniform recommendation of .001 press fit is now standard, while suggested fitting of centrifugally cast sleeves remains a matter of individual preference.

Reports of failures continued high during the introduction of oversized sleeves, and most failures kept showing evidence of block distortion even though the block had been trued by boring. Successive investigations brought to light that blocks were being re-distorted after boring, by:

1. Poor boring bar practices.

2. Inefficient heat dissipation.

3. Improper tightening of engine studs and bolts.

Failures were consistently reported by operators who paid little or no attention to keeping blocks and radiators clean. Apparently these men gave little thought to the insulating qualities of rust and scale deposits. Yet it is a proven fact that any deposit of rust or scale retards the passage of heat from the combustion chamber. If such deposits are uniform, the only effect is to increase head temperatures and damage can be held to a minimum, though the driver cannot see such increased temperatures on the heat indicator. In other words, the heat indicator shows the temperature of the coolant, but when heat is bottled in the combustion chamber, the gauge temperature can read close to normal while the inside of the engine burns up.

Unfortunately, rust and scale deposits do not build to uniform thickness. They tend to concentrate in spots and so we find a small section of cylinder wall well insulated with foreign deposits and next to it is a comparatively bare spot. The bare spot runs reasonably cool as heat is dissipated to the coolant while the insulated section becomes a "hot spot." Any welder can foretell what happens in a case like that. It's similar to holding a welding torch on one spot of a bar of iron. The "hot spot," surrounded by cooler metal, starts distortion. The same applies to an engine block. "Hot spots" are the forerunners of distortion-and rust and scale deposits create "hot spots."

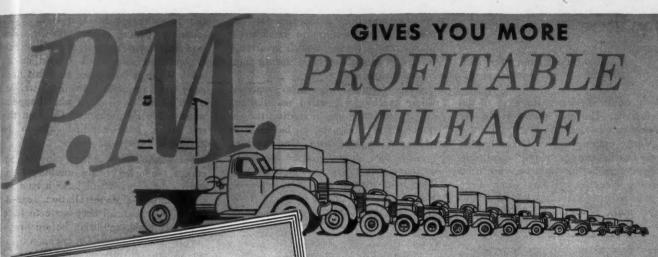
Boring Bar Practices

MOST of the failures that were reported from poor boring bar practices were traced back to a uniform pattern of neglect on the part of the bar operator. In almost every instance, the boring bar man knew better, but was attempting short cuts to save time. Most have since been impressed with the truth of the old adage that "Haste makes waste." The more common faults were:

Bar operators not sharpening and re-setting tools between holes. Boring a block without sharpening and resetting for each hole means progres-

(TURN TO PAGE 134, PLEASE)







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for Longer Truck Life and Reduced Maintenance Cost

PLANNED service for your truck fleet can give you more miles on the road between overhauls. Mid-Continent has worked out a plan for Preventive Maintenance which has been successfully used by many truck fleet operators-both large and small. These men have found that top quality D-X oils, greases and lubricants help keep their equipment in better condition. If you are located in the Middle West, write us today for complete information about the D-X Preventive Maintenance Plan.

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D-X D.H.D. contains Extrinol, the complex chemicals that help clean engines, protect bearings and fight sludge. Truck fleet owners and operators find that D-X D.H.D. with Extrinol stands up longer and lubricates better under all conditions. Try it in your trucks - on a money-back guarantee.



Terre Haute, Ind.

Omaha, Nebr. Minneapolis, Minn.

Dry Sleeve

Continued from Page 132

sively smaller holes as the edge of the tool dulls. Uniform sleeve fitting becomes impossible.

Many operators failed to tighten main bearing caps to recommended pressures before boring-and very few used torque wrenches. It has since been recognized that main bearing studs and caps must be set to manufacturers'

specifications during the time of boring the block. Failure to cinch these points with a torque wrench invariably results in block distortion during final engine assembly.

Many failures were also reported where mechanics ignored manufacturers' recommendations regarding the sequence and pressures to be used in pulling down head bolts. One operator reports that any mechanic using an ordinary socket wrench and tightening head bolts without regard to sequence. will distort an I.H.C. block at least .005. An easy experiment will prove

Valve Stem Rethreader

CO.

this report has a basis in fact. A micrometer reading of the cylinder holes in a block standing upright will actually vary when the block is laid on its side. When it is realized that this happens from a simple shifting of weight, it isn't hard to visualize what happens when a 200 lb mechanic swings on the end of a long handled wrench to tighten a head bolt.

Some mechanics, still striving for accuracy, reported being unable to install 6 dry sleeves and have a true inside diameter after installation, regardless of how careful they were to have a perfect block condition before pressing in the sleeves. Other shops, inversely, reported being able to consistently come within .0005 on inside diameters after fitting sleeves. The more successful, on questioning, all reported using the same boring and fitting procedures. First, they use a .00075 to .001 press fit-usually using a light lubricant on the outside of the sleeve to assist in getting the sleeve in its receptacle.

Please Resume Reading Page 72

Occupational Deferments Set at Absolute Minimum

". . . The needs of any industry must now be measured largely in terms of the needs of the Armed Forces," was the opening statement of the deputy director of Selective Service, Brig. General Louis H. Renfrow, at the St. Louis sessions of the forum on Trucking Industrial Relations. The General recognized the need of manpower in the trucking industry, and in turn the importance of the industry on any field of national defense production.

Deferments for any reason, the General stated, are temporary and only effective until that person may be replaced. The Local Selective Service Board is in complete control of each individual case of deferment, he said. In denying the existence of "deferred classification lists, General Renfrow said: "Authority of the local board to determine a registrant's classification under existing law and regulations . . was never taken away from the local boards.

For further clarification, General Renfrow said that contrary to popular belief, the Selective Service System is not under the Department of Defense, but rather, directly under the President. He also said that no suggestive deferred groups would be listed for consideration of local boards.

Concluding, General Renfrow said "industrial deferments for men in the age group 19-26 are going to have to be scrutinized to ascertain where the registrant can best serve his nation. It is mathematically impossible to raise and maintain an army of 31/2 million men . . . unless deferments of every kind are kept to the absolute minimum.



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SERVICE DIVISION HEADQUARTERS HOLLAND, MICH.



Pistons



Engine Bearings



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BOHNALITE BEARINGS Are Superior For

Smallest Automotive to Largest Diesel Engines!

The unexcelled quality of BOHNALITE MAIN BEARINGS, CONNECTING ROD BEARINGS and CAMSHAFT BEARINGS is the result of BOHN'S many

years of bearing development, production "know-how", and experi-

BOHN, (sponsor of the interchangeable-type bearings 25 years ago),

was first to produce the copper-lead lined aircraft bearing, and then

BOHNALITE BEARINGS, preferred by Jobbers and Dealers everywhere

for their definitely superior alloys, processing, machining, back contact, and precision fit, are your best bet for smallest automotive to

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HALLOWELL CABINET BENCH is worth waiting for...

The HALLOWELL Cabinet Bench has more "custom" features than any other stock bench we know of. All-steel construction, several top materials, ample storage space, standardized multiple units and accessories and true good looks make it well "worth waiting for."

WRITE FOR BULLETIN 702



STANDARD PRESSED STEEL CO. JENKINTOWN 5, PENNSYLVANIA

White Mustang

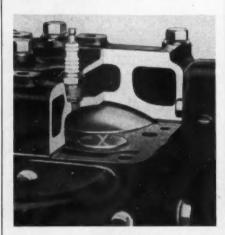
Continued from Page 74

tion of manifold and cylinder block provide greater support to exhaust gasket and improved gasket life.

A new White duplex carburetor with two venturi-one for each set of three cylinders-is said to improve distribution of combustion gases. A new distributor designed for this engine incorporates a part of the integrally built governor which maintains more accurate engine speed control.

High lift intake valves with hydraulic valve lifters contribute to the power and efficiency attributed to this engine. Sodium-cooled exhaust valves are also used.

Positive crankcase ventilation is provided through an intake manifold vacuum metering valve which removes fumes while fresh air is admitted to the crankcase through a removable wetted type air cleaner.



Cut-away view of cylinder head showing advanced type combustion cham-ber, spark plug location and ribbed construction of cylinder head

Care has been exercised in the design of the engine to withstand high combustion pressures. The cylinder head is heavily ribbed with pillars between the combustion chamber wall and the top of the cylinder head to provide for rigidity. Cylinder blocks are constructed with pillars running from the top through the bottom of the block to reduce strain and resultant distortion. Particular attention has been given the water flow. A new centrifugal type water pump, full by-pass thermostat and carefully designed water passages provide for adequate circulation and even water temperature control.

The Mustang engine, known as the Model 250A, is optional equipment on any White tractor or truck.

END Please Resume Reading Page 78

Budd Wheel Distributors provide the same service described in this advertisement

AKRON-Motor Rim Manufacturers Co. AKRON—Motor Rim Manufacturers Co.
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ALBAUQUERQUE—Wheels & Brakes, Inc.
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BALTIMORE—R. W. Norris & Sons, Inc.
BIRMINGHAM—Wheel, Rim & Parts Co.
BOSTON—New England Wheel & Rim Co.
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CHARLOTTE—Carolina Rim & Wheel Co.
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CHICAGO—Stone Wheel, Inc.
CINCINNATI—Rim & Wheel Service, Inc.
CLEVELAND—Motor Rim Manufacturers Co.
COLUMBUS—Hayes Wheel & Spring Service
DALLAS—Southwest Wheel, Inc.
DAYENPORT—Stone Wheel, Inc.
DAYENPORT—Stone Wheel, Inc.
DAYTON—Rim & Wheel Service, Inc.
DENVER—Quinn & McGill Motor Supply Co.
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LOUISVILLE—Auto Wheel & Rim Service
MEMPHIS—Beller Wheel, Brake & Supply Co.
MILWAUKEE—Stone Manufacturing Co.
MOLINE—Mutual Wheel Co.
NASHVILLE—Beller Wheel, Brake & Supply Co.
NEWARK—Automotive Safety Inc.
NEW ORLEANS—Southern Wheel & Rim Co.
NEW ORLEANS—Southern Wheel & Rim Co.
NEW ORLEANS—Southern Wheel & Rim Co. NEW ORLEANS—Southern Wheel & Rim Co.
NEW YORK—Wheels, Incorporated
OKLAHOMA CITY—Southwest Wheel, Inc.
OMAHA—Morgan Wheel & Equipment Co., Inc.
PEORIA—Peoris Wheel & Rim Co.
PHILADELPHIA—Thomas Wheel & Rim Company
PITTSBURGH—Wheel & Rim Sales Co.
PORTLAND—Six Robblees', Inc.
PROVIDENCE—New England Wheel & Rim Company
RALEIGH—Carolina Rim & Wheel Co.
RICHMOND—Dixie Wheel Co., Inc.
ROCHESTER—Frey, the Wheelman, Inc.
SALT LAKE CITY—Henderson Rim & Wheel Service
SAN ANTONIO—Southwest Wheel & Equipment
SAN FRANCISCO—Wheel Industries, Inc.
SEATTLE—Six Robblees', Inc.
SOUTH BEND—Wire & Disc Wheel Sales & Service
SPOKANE—Bearing & Rim Supply Co. SPOKANE—Bearing & Rim Supply Co.
SPRINGFIELD, ILL.—Illinois Wheel & Rim Co.
SPRINGFIELD, MO.—Borbein, Young & Co. ST. LOUIS—Borbein, Young & Co. ST. PAUL—Wheel Service Co. SYRACUSE—Colbourn Wheel & Rim Service, Inc.
TACOMA—Six Robblees', Inc.
TOLEDO—Wheel & Rim Sales Co.
WICHITA—Borbein, Young & Co.

EXPORT

CLEVELAND-C. O. Brandes, Inc.

CANADA

CALGARY-Fisk Tire Service Ltd. CALGART—FISH THE Settice Ltd.
EDMONTON—Alberta Wheel Distributors, Ltd.
MONTREAL—General Automobile Equipment Ltd.
TORONTO—Wheel & Rim Co. of Canada, Ltd
VANCGUVER—Wheels & Equipment, Ltd.
WINNIPEG—Ft. Garry Tire Service Ltd.

JUST LIKE A FREE TIRE WITH EVERY FOUR!

Tire Mileage Up 25%:

"When trucks average 10,000 miles a month, getting the maximum mileage from every tire is mighty important," writes Walter J. Heim, President of Montour Transport Co., petroleum haulers of Montoursville, Pa.

"Since changing over to Budd Wheels with wide base rims and a taper under both beads, we've found our tire mileage has increased 25%. Thanks to Bob Hamilton, field engineer of Standard Wheel and Rim Co., Budd Wheel distributors for central Pennsylvania! His suggestion that we standardize on the correct Budd Wheels has made bead pinching a thing of the past—helped our tires run much cooler."

Saves With Repeated Recapping:

"But that's not all. Before we switched to Budd Wheels with 22 x 8.0 new style rims we were using 11.00/22 tires on old style 22 x 7.33 (9-10) rims. We were having excessive bead failures and ply separations. We had to scrap 60% of our worn tires. Now practically every tire can be recapped. And that means real money at present day tire costs!"

Now Specifies Only Budd Equipment:

"Experience has taught us," Mr. Heim goes on, "That Budd Wheels are by far the best for our fleet. We now specify Budd Wheels with wide base rims and taper under both beads for all new equipment we buy."



Detroit Dispatch

Continued from Page 31

No Excise Increase on Trucks

Fleet operators apparently do not have to worry that the proposed increase of 20 per cent in the Federal tax on passenger cars will apply to trucks. There are no plans at present to increase the excise tax on trucks above the current 5 per cent. The proposed increase to 20 per cent also would not apply to trailers, replacement parts, or tires and tubes.

Self-Cleaning Plug

A report of a new type of self cleaning spark plug is of interest to fleet service operations. Few details are available but the plug currently is being tested in high compression aircraft engines and is said to operate for 500 hours without maintenance or adjustments, about five times as long as regular aircraft plugs. The manufacturer is said to be planning eventually to introduce a plug of similar design for automotive and industrial use.

Port of Entry Problems

GMC is getting some first-hand experi-

ence with "Balkanized" rules and regulations at state ports of entry with its mobile diesel school which is traveling the Western states. Traveling through three northwestern states, operators of the trucks were required to deposit \$15 on a \$50 bond required of truckers passing through the state, were required to file a report of their purchases of diesel fuel for tax puposes, were stopped for not having a PUC permit, were required to pay a ton-mile tax, were required to take out a temporary permit to buy fuel, and ran into several other minor legal impediments to their progress.

Low Cost Racers

Builders of race cars apparently are turning to truck engines because of their greater stamina. Three West Coast race car builders now are using GMC gasoline engines which are modified to alter displacement and to increase compression ratios up to 12½ to 1. The 270 engine is bored to increase displacement to 300 cuin. The modified truck engines are preferred because of their bearing strength and crankshaft ruggedness. Cost per horse power is said to be only about one quarter of that of the conventional four-cylinder Indianapolis racing engine.

Roadeo Bans Coe's

The AMA Roadeo Equipment Committee has revised its rules to ban all cab-overengine trucks from roadeo competition. The ATA Roadeo Committee has expressed regret over the action and is hoping that the ban will be reconsidered. The AMA committee also voted down a proposal to have all drivers in each class use the same make of truck which would be drawn by lot. Proponents of the suggestion said that such a move would actually test drivers rather than trucks. The 1951 Roadeo will not be held in connection with the annual convention, but will be staged at a different time and place.

Model Change Cancelled

Because of the defense program, one large truck producer has cancelled plans for a model change in its heavy line. Originally the company planned a change about mid-year. It also has cut down on a large variety of options and is simplifying its gear ratios and other options in order to get the greatest production use of the limited materials available.

Fruehauf Order Clarified

Fruehauf Trailer's \$34 million order for 35,883 trailers is not for large semi-truck trailers as had been assumed in some quarters. Actually, the order covers several types of smaller two-wheel units such as ammunition, small tank, and other type trailers that are pulled behind regular Army vehicles. It is understood that Fruehauf has done extensive work with smaller trailers and had been planning to introduce them for commercial use.

END
Please Resume Reading Page 37



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Well be 50 Years Old Tomorrow



PIFTY YEARS AGO tomorrow-on January 2nd, 1901-our company was founded in Cleveland as a manufacturer of cap screws and bicycle parts.

The small factory on Clarkwood Road with its 29 employees survived and grew because it produced a better product at a lower price.

Not long after, as America's first automobiles appeared on the highways, we turned to the manufacture of automobile parts and laid our foundations in the present world of motors—automotive, aircraft and marine.

Every business lasts and grows by serving.

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> by id

> > We have served our customers as specialists in the development and economical production of high-precision heat-resisting parts for the internal combustion engine, and of improved, safer parts for the automotive chassis and the airplane. As such specialists we have contributed our share through the years to the evolution of the modern automobile and airplane.

> > Fifty years is a long time, both in the span of human life and of business. Every business which reaches that age owes its achievements not merely to sound management but to people, forces and circumstances that have made such vitality and growth possible.

We have in mind today-

OUR EMPLOYEES, now over 15,000, whose seamwork and harmonious relationships with management are outstanding in industry—

OUR CUSTOMERS in the vast automotive and aircraft industries, including over 4,000 distributors of replacement parts in the United States, Canada and 109 countries overseas ...and the customers of these distributors, who are the hundreds of thousands of garages, car dealers, truck and bus operators and tractor service shops that keep the vital system of automotive transportation rolling.

OUR VENDORS from whom we buy materials, machine tools and the thousands of other things we need to run our plants and produce for our customers—

OUR STOCKHOLDERS whose savings invested in us provide the seed money for our present operations and continued progress—

THE COMMUNITIES in which our plants are located, that cooperate with us in many ways and provide the workers we must have in times of peace and war—

THE BLESSINGS of the country in which we live. Only in America with its free economy, free society and unmatched standards of living can there be industries like ours?

To these we make humble acknowledgement on our fiftieth birthday, and because of them we look with confidence toward the second half century of our company's history.

Thompson Products, Inc.

MANUPACTURERS OF AUTOMOTIVE, AIRCRAFT AND INDUSTRIAL PARTS

Rectorios in Cleveland, Ohio - Datroll, Mich. - Bell, Calif. - Subsidiarios: Tolado Stool Products Co., Tolado, Ohio - Thompson Products, Ltd., St. Collectines, Ont. - Runney Corp., St. Louis, Mo. - District Offices of Cleveland Flusts: Fisher Mdg., Datroll, Mich. - McCormock Mda., Chicago, M.

Washington Runaround

Continued from Page 37

Highway Builders Hopeful

Pending clarification of the statement by Defense Mobilizer Charles E. Wilson to the effect that no steel or other critical materials will be available for highway building needs, other than defense access roads, for the next two years, highway planning officials are proceeding with what might be called normal plans for highway construction.

To give defense officials a better idea of the importance of highway needs for critical materials, the Bureau of Public Roads is undertaking a nation-wide survey of such needs. The completed survey will be turned over to NPA for use in allocating steel and other critical materials.

FTC Truck Sale Rules

Truck sales at retail are now covered by a set of trade practice rules issued by the Federal Trade Commission. The rules are designed to eliminate and prevent unfair or deceptive practices in the installment sale and financing of all motor vehicles.

Under the rules, the following "unfair" trade practices are prohibited:

(1) Misrepresentation by the seller of

insurance coverage or rates or financing costs or rates.

(2) Failure of the seller to furnish the buyer, before the sale is completed, with a written itemization which discloses the delivered price of the motor vehicle, including accessories or extras; the amounts to be credited as down payment and tradein; the time balance owed to the seller and the amount and due date of each installment payment; the cost of the insurance and the coverage provided; and the financing charge.

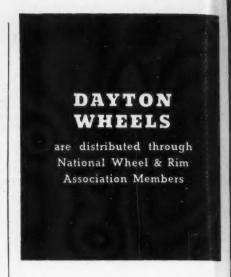
(3) Having the purchaser sign an installment sale contract or receipt in blank, which is to be filled in subsequently by the seller or financing institution, with the purpose or effect of deceiving the purchaser.

(4) Use, by the seller or the financing institution acting individually or in collusion, of rate charts in a manner to mislead or deceive the purchaser as to the amount required to finance the unpaid

balance of the contract.

(5) The requirement by the seller or the financing institution, acting individually or in agreement, that the installment sale or financing of a motor vehicle shall be conditioned on the purchase of an insurance policy from a particular company when equivalent or better coverage by another company is available and the purchaser-desires the policy of the other company.

(TURN TO PAGE 154, PLEASE)



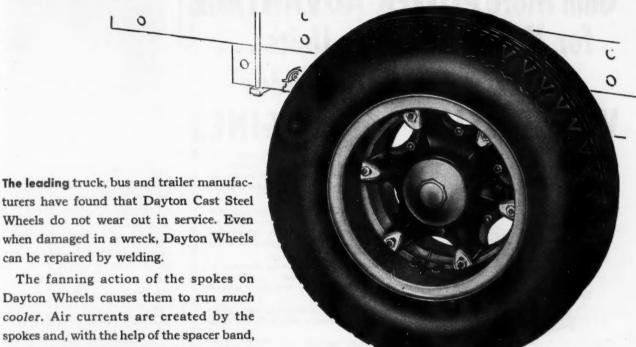


With Metaffin, regularly used from the start, you can keep sludge at bay for the life of an engine. See the Magnus Truck and Bus Cleaning Manual for details. Free to

MAGNUS CHEMICAL COMPANY, 38 South Ave N. J. In Canada—Magnus Chemicals, Ltd., Service representatives in principal cities.



DAYTON WHEELS cost less for service than any other wheel!



The fanning action of the spokes on Dayton Wheels causes them to run much cooler. Air currents are created by the spokes and, with the help of the spacer band, are directed against brake drums and inner walls of the inside tires.

Increased pressure exerted by each of the rim nuts on the clamp bevel against the demountable rim prevents rim slippage and consequent uneven tire wear.

Dayton Wheels help to lower operating costs, too, and most smart operators have taken advantage of these savings for many years. Specify Dayton Wheels for new equipment and replacements.

THE DAYTON STEEL FOUNDRY COMPANY, DAYTON 1, OHIO

neels SPOKE TYPE CAST STEEL



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Dayton Brake Drums Drums assembled to the wheels at the factory give more perfect concentricity.



Dayton 5th Wheels Standard equipment on many trailers, Quick coupling Positive operation,

Dayton Landing Gears
Made in both hydraulic and mechanical types.



New Products

Continued from Page 80

P145. Glare Shield

A non-glare shield which protects drivers' eyes from the glare of sun or snow without blocking the field of vision is available from Chrysler Motor Parts Division. This transparent green plastic visor fits across the top 3 in. of the windshield.

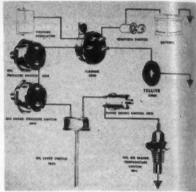
P146. Blast Cleaner

A new midget unit by Pangborn Corp. for liquid blast cleaning weighs 40 lb, has a 15-in. blast chamber, and may be connected to standard compressed air systems. The manufacturer states that abrasives as fine as 5000 mesh may be used, and tolerances of .0001 in. will hold. It fits in a floor space 17 x 23 in., is mounted on ½-in. pipe, and operates on 110 v ac. In the garage or machine shop the principal use for the new machine will be spark plug cleaning, removal of scale

and rust from precision parts and polishing after heat treating to eliminate hand labor.

P147. Warning System

A new type warning system that tells the vehicle operator of any abnormal function of the various engine parts. Connected to report low oil pressure, low air pressure, excessive coolant heat, low generator charge rate, or any other likely point of trouble, the "Tellite" flashes a warning signal. The driver may then determine by his instrument panel where the trouble is.



Units may be mounted so that one light reports many conditions or may be connected separately to each likely trouble spot. When there is no malfunction present, a dim glow is indicated in the instrument. A flash from dim to bright, repeating, is the indication that something is wrong. The manufacturer: Rochester Mfg. Co., Rochester. N. Y.

P148. Tailgate Elevator

An elevating endgate that fits all van, platform or stake body trucks will raise loads of 2000 lb from ground to body level or lower them in a few seconds, according to the manufacturer. Gar Wood Industries Inc., Minneapolis, Minn.

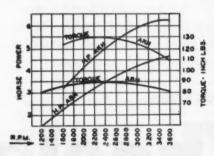


Additional benefits are promised, in cluding safety to personnel, security to cargo, and savings in time and labor.
(TURN TO PAGE 144, PLEASE)

Gain More POWER ADVANTAGE for Your 3 to 6 hp. Units... Specify Single-Cylinder WISCONSIN Air-Cooled ENGINES



Models ABN and AKN 4-cycle, singlecylinder standard engines, 3 to 6 hp. (See specifications)



POWER CURVE AND HORSEPOWER LIST-ING SHOWS MAXIMUM DYNAMOMETER HORSEPOWER OF ENGINE complete with fan, muffler and air cleaner. For continuous heavy-duty operation do not rate the engine at more than 80% of the horsepower shown at any given speed. Presented here are a few of the basic facts why Wisconsin Heavy-Duty Air-Cooled Engines offer important advantages to the designing engineer, equipment manufacturer and the ultimate user.

1. Rotary type high tension magneto, with impulse coupling, mounted on outside of engine . . . operates as an entirely independent unit that can be serviced or replaced in a few minutes.

 Self-cleaning tapered roller bearings at both ends of the crankshaft . . . will withstand either side-pull or end thrust without danger to the bearings.

3. Maximum torque at usable speeds...most desirable for equipment that really has to go to work,

SPECIFICATIONS	ABN	AKN
Bore	21/2"	27/2"
Stroke		23/4"
Piston Displacement—cu. in.		17.8
Horsepower1800 R.P./	W. 2.5	3.6
2600 R.P./	W. 3.7	5.3
3000 R.P./	W. 4.2	5.9
3600 R.P./	M. 4.6	6.2
Main Bearings	Tapere	ed Roller
Piston	Alumino	um Alloy
No. of Piston Rings		3
Connecting Rod		m Alloy
CrankshaftCounterbald		Treated Forging
Cylinder HeadAl	uminum Re	movable
Cylinder - Crankcase		ast Iron
Valve Seat Insert (Exhaust)	Molybden	um Iron
Spark Plug Size	18 mm	. Metric
Fuel Tank Capacity	1	Gallon
Weight — Lbs. Net		Crated
Standard Engine76		89

This is the first of a series of engineering data advertisements about Wisconsin Air-Cooled Engines. Entire series yours on request. Our engineering department will be glad to co-operate with you in adapting Wisconsin Engines to your requirements. Write for further data.



WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46. WISCONSIN

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3 in REASONS for Equipping YOUR Truck with MECHANICS Roller Bearing UNIVERSAL JOINTS

Use 8 Less Bolts for Assembly

this will save you approximately 12 minutes of assembly time for installing the propeller shaft in your truck.

12 minutes at \$1.60 per hour = \$.32

Are 34% Lighter in Weight

on a transport type truck this amounts to 28 pounds. This adds up to 11,200,000 pounds of extra PAYLOAD your truck can carry during its life of 400,000 miles.

5,600 ton miles at \$.05 per ton mile = \$280.00

Need 80% Less Down-Time for Servicing

The average truck requires 4 trips to the shop for universal joint replacement parts during its life. Each trip ties up the truck 1-1/5 hours on the average.

80% of 5 hours down-time at \$3.00 = \$12.00 80% of 5 hours mechanic's time at \$2.00 = \$8.00

Total Dollar Value of Equipping Your Truck with Mechanics Universal Joints \$300.32

These 3 Dollar Value reasons for equipping YOUR trucks with Mechanic's Universal Joints are but a few of the many competitive advantages our engineers will gladly detail for you.

MECHANICS UNIVERSAL JOINT DIVISION

Borg-Warner e. 2034 Harrison Ave., Rockford, III.

New Products

Continued from Page 142

P149. Spring Reinforcement

An extra-leaf spring unit has been developed by Maremont Automotive Products Co., Chicago, featuring a leaf next to the main which quarter-wraps the eye. The manufacturer states that this reinforces the eye area of the primary leaf and minimizes eye breakage. The new helper leaf will carry the full torque in the event of eye failure.

P150. Marine Spark Plug

The addition of two new shielded marine resistor spark plugs to the Auto-Lite line has been announced by Electric Auto-Lite Co., Toledo, O. They are for use in inboard marine engines and the resistor feature means effective suppression of ignition interference with two-way radio installations, the manufacturer states.

P151. Polishing Tool

A newly designed polisher has been announced by Skilsaw Inc., Chicago. It is small, light weight yet said to be servicable in the small garage or shop where volume does not warrant purchase of heavier, more expensive equip-



The polisher is 91/2 in. long, has a speed of 1300 rpm, and an in-line motor and spindle construction which is said to eliminate gyroscopic "kick" common to most right angle designs.

P152. Mirror Line

A complete line of truck mirrors has been announced by J. W. Speaker Corp., Milwaukee, Wis. The manufacturer promises longer life by several features including greater rigidity, strength of brackets, and greater reflecting surface.

P153. Telescopic Derrick

Made to fit 1/2 to 1-ton trucks, a single-post derrick has been announced by McCabe-Powers Auto Body Co., St. Louis, Mo. It uses multiple pulley blocks, has a capacity of 1500 lb and when not in use is collapsed and carried inside pickup, express, or utility type bodies against one side wall.

P154. Parts Tester

Crumbliss Mfg. Co. has a parts tester that will analyze the operation of any part of the ignition system, permitting adjustments while the machine is in operation. The manufactuurer states that the instrument will duplicate engine operation, permitting more accurate adjustments. The unit consists of an instrument panel with slanted dial area mounted on a cabinet 34 in. high.

(TURN TO PAGE 148, PLEASE)

FOREMOST IN CAR WASH **PRODUCTS**

Used by chaefer Fleet of 450 Trucks



MOBO washes more cars than all other brands. MOBO is used by the finest garages, auto laundries and service stations — as well as the big fleets throughout the country.

Contact Your Jobber Today!

Dried" Car Wash

Mobo Aquadizer

Mobo O.G. Bar Soap

Mobo Protol

· Mobo Super

Auto Wash

JOHN T. STANLEY CO., INC.

(Mobo Division)

642 West 30th Street, New York 1, New York

TRUCKER'S CHOICE!



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JUST OPERATED 102,000 MILES: "The Kelly-Springfield Tires on our truck No. 9453, which operates daily between Seattle, Washington and Pendleton, Oregon, have just recently operated 102,000 miles and then were regrooved, and all indications are that we will get another 30,000 or 40,000 miles on this set of tires. We are very pleased with the performance of these Kelly Tires. They are giving some of the most outstanding performance of any tires we have used."

Gus Nieman, President, Inland Motor Freight, Spokane, Washington. MORE MILES per tire dollar invested—that's what you can expect from Kelly Truck Tires. Truckers' records from one end of this country to the other prove it. On this page are just a few examples of the overwhelming evidence piled up year after year by the men who buy Kellys and the men who use them.

LOWER COST per tire mile is what it all adds up to—not only because Kellys give extra thousands of miles of worry-free service, but because they take re-caps better, give more total mileage. Try Kellys on your trucks. Get your own proof that Kelly's 57 years of tire-building know-how really pays off in long, low-cost mileage.

THE KELLY-SPRINGFIELD TIRE CO., CUMBERLAND 3, MARYLAND

Know-how makes them better





New Products

Continued from Page 144

P155. Magnetic Sockets

A socket set for self-tapping screws has been marketed by Snap-On Tools Corp., Kenosha, Wis. A magnet imbedded in each socket holds these flatheaded screws making it easier to insert and install them. Regular bolts and nuts may also be set with the sockets, in seven hex. sizes from ½ to ½ in.

P156. Quick Oil Changer

A hand-operated oil suction pump made by Graygar Inc., Chicago, is said to provide suction for draining and flushing crankcase oil without removing the drain plug or using a lift or pit. The manufacturer states that three minutes is all the time required to complete an oil change.

P157. Electric Fuel Pump

Bendix Aviation Corporatrion, Elmira, N. Y., announces the new Bendix

Automotive Electric Fuel Pump. The new electric fuel pump is now in production for the military services, supplying fuel to coolant heaters and space heaters, as well as supplying fuel to carburetors. A single pump will deliver up to 30 gallons per hour. Static pressures up to 7.0 P.S.I. are obtainable, For larger requirements two or more pumps are manifolded in series or parallel.



The pump is powered by a solenoid. Pumping is achieved by the movement of a hollow plunger controlled by an interrupter in the electrical circuit; neither a sylphon or rubber diaphragm are used. This permits a smooth, steady output of fuel at all temperatures. Successful tests have been conducted at -75°F. As a result, this pump is now being used on military vehicles operating in the Arctic. Low power requirement is also an important feature, only 7 watts required at maximum fuel delivery. Pumps now in production are for operation on 6, 12, and 24 volts direct current, with a 110 volt, alternating current version under development.

P158. Special Tools

A long-reach pein of 9½ in. for driving up small dents in tight places is incorporated in a new long-pick hammer offered by Bonney Forge & Tool Works, Allentown, Pa. The head weighs 15 oz, is 12 in. overall in length and has polished faces and black finish. Round face is 15% in. in diameter.

(TURN TO PAGE 152, PLEASE)



WHETHER your body building program concerns commercial or military types, you are certain to find that the majority of E"Purpose Tested" truck body fittings shown in the catalog, will suit most of your needs.

Write for the Eberhard Catalog which illustrates and describes the most complete line of truck body hardware available.



Guaranteed WORLD BESTOS D BLOCK

Can't Fade—Actually Retains **Full Friction at Brake** Temperatures as High as 1300°

Red Block is used only in combination with World Bestos "D" blocks as shown in diagram. This makes up the revolutionary "J" Combination that eliminates brake fade regardless of heat, water or driving conditions.

On severe service "J" Combination also gives longer mileage and protects drums from heat checking and distortion.



THE RED BLOCK "J" COMBINATION IS AN EXCLUSIVE WORLD BESTOS DEVELOPMENT. GUARANTEED NO FADE (HEAT OR WATER)

Mr. Harold P. Collier owner of Collier's Truck Service, Uniontown, Pa., says, "Since we started using World Bestos RED BLOCK

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we haven't had a single case of brake fade and are getting twice the mileage between relines. RED BLOCK in the "J" Combination is without doubt the finest brake block I have ever used."

Mr. Bill Strong, Fleet Supt., Associated Lumber and Box Co., Wilseyville, Calif., "We have had unusual success with World Bestos "J" Com-



bination (RED BLOCK) ... no trouble at all with brake fade ... a welcome saving on maintenance costs due to longer brake life and reduced drum wear."

Mr. M. H. Wilson, Supt. of Mtn., Pilot Freight Carriers, Inc., Winston Salem, N. C., "Most dependable braking performance we've ever ex-perienced, (RED BLOCK) has eliminated brake fade completely



. reduced our brake maintenance costs substantially by giving us more mileage between relines and by eliminating excessive drum wear."

Mr. Claude Sorel, Mtn. Manager, Emmott Valley Trans-portation Co., "RED BLOCK has proven superior in all respects to any brake blocks



previously used by us. Dependable brake action, high mileage and exceptionally long drum life make RED BLOCK the answer to a maintenance manager's prayer. I sincerely recommend World Bestos RED BLOCKS to any fleet operator."

For Full Information about World Bestos RED BLOCK and the complete line of World Bestos Job-Tested Brake Linings and Friction Materials, see your Jobber or write to World Bestos, New Castle, Ind.

World Best

NEW CASTLE, INDIANA

New Products

Continued from Page 148

P159. Balancing Weights

Of particular interest to fleets operating vehicles in the light commercial or intermediate weight class is the introduction of a new series of wheel balance weights. Manufactured by Wheel Weights, Inc., Detroit, they bear the brand name "L & H" and are designated as the LIW (light intermediate weight) series.

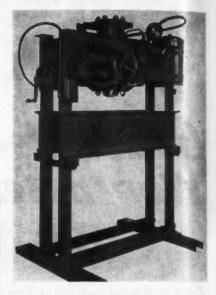
P160. Metal Press

This 150-ton Lempco press is said to be specifically designed for use in diesel engine shops for riveting, pressing, bending and broaching heavy assemblies.

Among the features demonstrated by the manufacturer are a special finger tip control that operates the ram to pre-selected tonnage, the kick-off when this setting is reached, hydraulic operation in both directions, and the speed of the ram (12-13 in. per min).

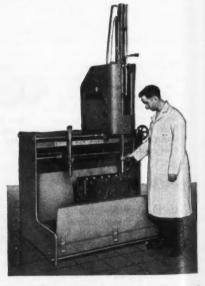
The ram operates on hydraulic pres-

sure, actuated by a pump of the radial fixed displacement type. The electric motor is 10 hp, and a safety valve eliminates overloading.



P161. Cylinder Hone

A smaller, low-cost honing machine has been announced by Accurate Tool & Gage Co., Minneapolis. The manufacturer states that only a minimum of setup time is required by the operator, due to the use of dual centering cone. One cone attaches to the spindle which positions and lines up one end of the block, while the other cone swings out from the machine to center the other



end of the block for alignment with the spindle travel.

The ATG honer will take all cylinders from 2% to 5% in. diameter and any length to 18 in. Controls and adjustments are within reach of the operator at his normal working position.

END

Please Resume Reading Page 82

COMMERCIAL CAR JOURNAL, March, 1951

Co



 By use of a curved track in the patented lifting arms, MARION gives you a hoist that operates at a uniform oil pressure throughout its dumping cycle.

Some conventional hoists require a peak oil pressure of 1100 lbs. per sq. in. to do the same job that a comparable MARION hoist, with patented lifting arms, does at only 615 lbs. per sq. in.

Consequently, MARION Hoists actually do their job easier—hydraulic systems last longer, are more efficient and dependable, and, in the long run, more economical to own and operate.

Ask us for the name of your nearest MARION Distributor let him give you the complete story.



MARION METAL PRODUCTS COMPANY MARION, OHIO, U.S. A.

STANDARD AND SPECIAL HOISTS AND DUMP BODIES FOR LIGHT, MEDIUM AND HEAVY DUTY SERVICE

"the cost of TACHOGRAPHS

has been more than offset by increased efficiency in our truck lines"...

ROBERTSON TRANSPORT

Medicine Hat, Alberta

Like Robertson Transport, hundreds of fleet operators have found that Tachographs do put efficiency into their modern, over-the-road trucking operations. Tachographs have done much to cement the good relations between drivers and owners. Drivers, who at the outset shunned Tachographs, are today singing praise for these recording speedometers because they verify good driving practices and protect them against false speeding charges. The graphic charts are helpful to fleet operators because they give a permanent graphic record of every trip. This information is valuable in compiling mileage, fuel, tire and overhaul records so necessary in profitable fleet operation.

Put efficiency into your operation. Write for Bulletin SU-3B today. It gives you complete information.

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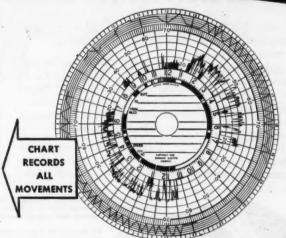
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8**2** 1951

- HOW LONG ENGINE IDLED
- WHEN VEHICLE
 WAS IN MOTION
- HOW FAST IT TRAVELED
- WHEN VEHICLE
 STOPPED
- DISTANCE TRAVELED BETWEEN STOPS







Wagr	erElectri	c Corp	oration
6476	PLYMOUTH AVE.	ST. LOUIS	14, MO.
Pleas	e send a copy	of Bulletin	SU-3B.

Name and Position______

Company_____

Address_____

City_____State_____

We operate_____Vehicle

Washington Runaround

Continued from Page 140

Transportation Act Revision

A complete overhaul of the National Transportation Act will be proposed in amending legislation now being prepared by the staff of the Subcommittee on Domestic Land And Water Transportation of the Senate Commerce Committee. The new bill will be based on the subcommittee's two-year investigation. Of vital interest to the trucking industry are two points advocated by subcommittee staff

director, E. J. Jelsma: (1) Re-definition of common, contract and private carrriage, and (2) Re-definition of the agricultural exemptions. See page 51.

exemptions. See page 51.

The make-up of the subcommittee has changed since the last Congress. The new chairman is Sen. Johnson, Dem., Colo. (also chairman of the full Senate Commerce Committee). Other members are Senators Johnson, Dem., Texas; O'Conor, Dem., Md.; Hunt, Dem., Wyo.; Bricker, Rep., Ohio; Kem, Rep., Mo.; and Capehart, Rep., Ind.

Excise Tax Skips Trucks

Tranportation interests are not adversely

affected by the Administration's request for higher excise taxes, except for the doubling of the present 1½ cent per gallon tax on gasoline, which is estimated will bring in an additional \$580 million annually.

The proposals do not call for any higher taxes on trucks, buses, trailers, parts, or tires and tubes. Nor was there any request for a boost in the tax on transportation of property and passengers. However, the proposed increase on passenger cars from 7 to 20 per cent would raise an additional \$685 million.

New Option for Buses

The new excess profit tax, for the first time, gives bus operators and other regulated public utilities the option of using their average outstanding common and preferred capital stock accounts, capital surplus and earned surplus in determining their adjusted invested capital. There is a proviso, however, that books must be kept in accordance with the uniform system of accounts proscribed by the regulatory agency or the National Assn. of Railroad and Utilities Commissioners. Like older tax laws, it also provides the option of using average earnings.

Sanitary Inspection for Buses

"Certificates of Sanitary Construction" formerly awarded by the Public Health Service only to ship builders and operators, now are going to all types of interstate carriers—buses, trains, and planes, as well as ships. These certificates read as follows: "This is to certify that an inspection was made of this conveyance and that at the time of inspection the features of sanitary construction and the sanitation facilities were found to satisfactorily meet the standards of the Public Health Service."

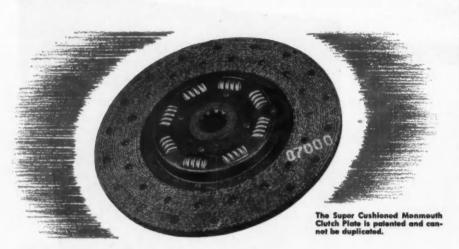
ICC Bans Rail Inquiry

The ICC has turned down a petition submitted by some 90 railroads which sought an investigation into the economic effects of long-haul trucking (CCJ, June, 1950, pg. 35). Similar petitions were filed by the grain trade and two rail unions.

The order expressed the view that such general investigations require "a long period of time... would be costly both to interested parties and the Commission." In regard to the request in the petitions for a suspension of action on many pending motor carrier applications, the Commission expressed doubt as to its power to withhold action on pending applications while general investigations are made. Finally, the Commission flatly stated that the necessary costs of such investigations could not be borne by its appropriation from Congress.

Building Priority Eased

The National Production Authority on Feb. 15 lifted the outright freeze on construction of commercial facilities, includ-(TURN TO PAGE 156, PLEASE)



Super Cushioned to the requirements of Master Automotive Mechanics

THE Monmouth Clutch Plate is super cushioned to deliver more miles of happy driving than any other design or construction. It cushions the initial engagement through segments of the finest spring steel obtainable. Its tremendously strong yet simple construction (cross section at right) is precision engineered for

the tough service required of replacement plates.

It is typical in quality and engineered performance of the complete line of Monmouth Clutch Parts. Available coast to coast through N.A.P. A. Jobbers.

Write us for descriptive folder on the Monmouth Super Cushioned Clutch Plate.





Keep em Rolling at a <u>lower cost</u> per mile

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With an ever-increasing need for maintaining your vehicles, tire care assumes an even greater proportion of your vehicle servicing. Accurately gauged air pressure in your tires gets you not only extra miles out of your rubber, but cuts the chance of expensive roadside flats.



The Schrader line saves you trouble and time

Gauge! Inflate! Gauge! That's the key to improved tire care, and the complete line of Schrader Products gives you all the tools you need to do the job more efficiently. Put a Schrader #7188BH or a #6060 all-purpose service gauge in each of your vehicles; check your gauges and inflating devices regularly with a Schrader #8106B Trutest Special. And for all tire valves and valve replacement parts use the best—use Schrader Tire Valves, Caps and Cores. A. SCHRADER'S SON, Division of Scovill Manufacturing Company, Incorporated, Brooklyn 17, N. Y.





FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT



Washington Runaround

Continued from Page 154

ing trucking terminals, warehouses, lofts and so on. But under amended M-4, approval for all such projects costing \$5,000 or more must be obtained from the nearest field office of NPA. They must help the defense effort, prevent hardship, or be essential to public health and safety.

At the same time, however, the Federal Reserve Board tossed a stiff credit curb into the picture. It amended Reg. X so as to require that mortgages for such new construction should not exceed 50 pct of the value of the completed establishment. The same credit restriction applies to any addition or improvement costing more than \$5,000. Normal repair and maintenance work does not require NPA approval. Nor do improvements to office and loft buildings if the cost does not exceed 25 cents per square foot.

END
Please Resume Reading Page 41

Labor-Management Group

Labor and Management are united in the new Trucking Industry National Defense Committee. The group is committed to see that truckers get a full share in America's defense program. Last month members had a lengthy conference with Economic Stabilization Administrator Eric Johnston during which the united committee offered to meet "any demands on it by the Government."

Dave Beck, of Seattle, executive vicepresident of the AFL International Brotherhood of Teamsters, is chairman of the group.

Other members include C. Allman, president of the Truck-Trailer Manufacturers Assn. and executive vice-president of the Fruehauf Trailer Co.; John V. Lawrence, managing director of the American Trucking Associations, Inc.; Arthur D. Condon, of the law firm of Davies, Richberg, Tydings, Beebe & Landa, general counsel for the committee; United States Senator Warren Magnuson, (D-Wash.); Ray Leheney, public relations director for the Teamsters Union; John C. Stevenson, attorney for the Teamsters; John Hulse, managing director, Truck-Trailer Manufacturers Assn.; and Verne Drew, director of research, TTMA.

YOU CAN DEPEND ON
McCORD GASKETS
MOST CAR AND TRUCK

MOST CAR AND TRUCK MAKERS DO

McCORD CORPORATION

Detroit, Michigan

Gaskets • Radiators • Mufflers

Pipes and Oil Retainers



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CCJ Reports . . .

Continued from Page 110

Roadeo Changes Announced

The National Truck Roadeo, sponsored by the American Trucking Associations, Inc., will be held separately from the association's annual convention in the future.

The time and place of future Roadeos is to be decided by the ATA staff. The decision becomes effective immediately unless it is not expedient in the opinion of the staff to hold this year's Roadeo separately.



Hitch Hikers

During an underwater test run at Rainbow Springs, Fla., Reo Motors' new army truck reaches a marine crossroads. Tired of swimming, Mary and Frances Dwight of St. Petersburg, Fla., decide to reach shore the easy way, and driver John Scott obliges. The truck is a 2½-ton 6 x 6 designed to ford streams. It cruised in water 11 ft. deep and remained in operation while submerged up to four hours.

Power Steering Hailed As Great Improvement

Observers say that one of the most significant developments in the passenger car field is found in the introduction of power steering. Specifically, the new steering system has been made and patented by Germer Mfg. Co., whose name it carries. In 1951 it will be fitted as standard equipment on Chrysler Crown Imperial models and as optional equipment on Chrysler Imperial and New Yorker models.

Briefly, power steering has these advantages to offer. First, it reduces driving fatigue on long trips at high speeds. Then, it eliminates much of the road shock from steering. It enables the operator to move front wheels with only slight effort while car is standing, thus simplifying parking maneuverability. From a safety standpoint, there will be complete control in the event of tire failure or encountering a deep hole or soft shoulder.

While the over-all steering ratio has been reduced by 30% there is little tendency for over steering, probably because the steering effort is so slight. Traveling at high speeds on a highway, steering is said to be extremely stable and control is said to be excellent.

Convention Site Named

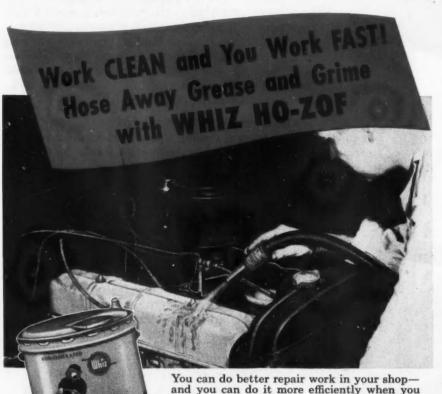
New York and Los Angeles were selected as sites for the 1952 and 1953 national conventions of the American Trucking Associations, Inc. The 1952 convention will be held during the first week in October at the Waldorf-Astoria Hotel.

Previously the Executive Committee had decided on the Stevens Hotel in Chicago for the 1951 convention site. The dates for this year's 18th annual ATA convention are October 22 to 26.

FMA Elects Officers

Officers of the Fleet Maintenance Association of Philadelphia for the coming year are: W. Wayne Bavington, representing Baldwin Dairies, Inc., president; vice-president will be Harry Clapp of the Philadelphia Inquirer; Jack R. Schaefer from the Penn Fruit Co. is secretary, and the new treasurer, Elmer Burns of Canada Dry Co. The announcement was made recently by retiring president Paul Magee, Pyramid Motor Freight.

(TURN TO PAGE 162, PLEASE)



You can do better repair work in your shop—and you can do it more efficiently when you use WHIZ HO-ZOF. Why?—because HO-ZOF gives you a way to clean out grease and grime at very low cost! You can spray or brush HO-ZOF over grease—wait a few seconds—then hose away the dirt.

WHIZ HO-ZOF is a concentrated degreasing solution which is used diluted 1 part to 8 parts kerosene. HO-ZOF dries rapidly, leaves no film, and does not affect paints, metals or hands. Use on motors, tools, floors, brakelinings, etc. Available in bulk sizes.

roducts today! If he cannot supply you, ask him to stock them for you.

LOOSEN-ALL

Another WHIZ Time Saver!

WHIZ LOOSEN-ALL quickly frees metal which are seized, rusted for parts which are seized, rusted for parts which are seized, rusted, scale, corports. LOOSEN-ALL cuts rust, scale, corports. LOOSEN-ALL quistlesd, shellac, dirt, carrosion, red or white lead, shellac, dirt, canbon and gum! Handy squirt-spatent Pendins

HO-ZOF

ASK YOUR JOBBER

for HO-ZOF and other WHIZ



Whiz

. M. HOLLINGSHEAD CORPORATION
LEADER IN MAINTENANCE CHEMICALS
LEADER IN MAINTENANCE CHEMICALS
LEADER IN MAINTENANCE CHEMICALS

Stepped up cleaning action... Even greater anti-wear protection

... anticipating the needs of today's high performance fleet engines

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g ilToday's hauling conditions are imposing greatly increased demands upon fleet engines... and the lubricants selected to keep them running. At the same time these high-performance engines are expected to turn

in ever-increasing mileage records between overhauls.

For these reasons, and because even greater performance will probably be expected as time goes on, the detergent-dispersant and anti-wear qualities of Shell Rotella Oil have been markedly increased.

Operators using Shell Rotella Oil in the past will find an even greater latitude in maintenance procedures.

4-WAY LIFE EXTENSION FOR BUSY ENGINES

I. Remarkable detergent-dispersant action

The ability to suspend contaminants has been deliberately stepped up in the new oil. Field tests on vehicles, in widely varying kinds of service, prove conclusively that this greater detergent-dispersant action extends mileage between overhauls.

3. Positive Anti-acid action

New Shell Rotella Oil directly counteracts the acid action of fuel combustion products in the vital top-cylinder zone . . . with correspondingly great reduction in wear. This protection is extremely important in the operation of intermittently loaded engines.

2. Drastic sludge reduction

Operators who have been having sludge troubles . . . with clogged pump screens, burned out bearings, or clogged oil ways . . . are urged to find out for themselves how remarkably clean those engines will remain while using this new anti-sludge Shell Rotella Oil.

4. Extends time between engine overhauls

New or reconditioned engines . . . operating on fuels of widely-varying quality . . . in all kinds of fleet service . . . have demonstrated an important extension of in-service time. This gain results from improvement in several basic respects: freedom from sludge and ring-clogging, increased valve life and greatly reduced wear.

for all heavy duty fleet engines

CCJ Reports . . .

Continued from Page 158

Trainers' Course

The Institute of Public Safety of the Pennsylvania State College is embarking on a new type of project in the motor fleet field.

The Institute has scheduled a two-week course for driver trainers. The course is for supervisors of drivers, senior drivers, driver trainers and others responsible for training drivers. It is not meant for training persons who have not driven commercial vehicles. A longer course to train commercial drivers is planned for later this year. Additional information can be obtained from Professor Amos E. Neyhart, Institute of Public Safety, The Pennsylvania State College, State College, Pennsylvania.

Labor Shortage Forecast

Benjamin R. Miller, director of the Industrial Relations Department of the American Trucking Associations, Inc. predicts there will be a servere manpower shortage by early summer, and urges that the trucking industry place all requests

for new personnel with local offices of the United States Imployment Service. He said that the manpower situation will become serious within a few months when defense plants begin to get into production with consequent heavy demands for personnel.

Disaster Plans Formed

Larger cities are giving high priority to planning for the emergency mobilization of trucking fleets in case of atomic raids. A survey made by Mack Trucks Inc. shows that inland cities were as much concerned with their civilian defense preparations as were coastal areas. Specific plans reported by some cities called for the establishment of defense trucking pools on the city's outskirts, designation of emergency assembly points, and creation of special maintenance repair depots.

Road Test Planned

First plans for testing the effect of heavy trucks on bituminous highways have been formed by Tennessee's Highway Commissioner Charles F. Wayland Jr. A bill being presented in that state will provide funds to carry out the project. Test will be similar, Commissioner Wayland said, to tests undertaken on concrete roadways in Maryland. Tenessee and other southeastern states have more bituminous than concrete roads.

Mack Has Helper

A big step in the growth of western heavy industry and major contribution to western defense efforts was announced jointly here today by the Mack Manufacturing Corporation and the Wooldridge Manufacturing Company of Sunnyvale, California.

Under an agreement, signed today, the Wooldridge Company will partially produce and fully assemble Mack off-highway vehicles in their main Sunnyvale plant. The vehicles, which operate off the public highways, will be specially designed to fit the needs of western contractors, miners and loggers.

Welding Clinic Offered

A free "Trouble Shooting Service" to help solve metal-joining problems whenever they arise, was offered as part of a concentrated program of assistance to production management men throughout the nation, has been pledged by Eutectic Welding Alloys Corporation, New York, at the company's 10th Annual National Sales Conference held in New York.

In addition to this intensive "Service Campaign," it was announced that a new series of Chemical Welding Aids, as well as new alloy and electrode developments would soon be made available for general civilian as well as military production needs.

Navy Order For Packard

Packard Motor Car Company today announced government contracts totalling \$20,000,000 for a series of powerful diesel engines and associated parts for the Navy (TURN TO PAGE 164, PLEASE)





In professional painting TWO FACTS STAND OUT!



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1951

Finish is sprayed on



Your products and services, your employees and public relations, even your vehicles-all leave an impression on your customers. All say one way or another: "This is the kind of Company we are."

Isn't it good business judgment, then, to create a favorable impression wherever possible?

For example, when the two delivery trucks you see pictured above get out on the street, they're going to impress everyone with their neat, clean and shipshape appearance. They'll be saying, in effect: "We're a good Company to do business with." It's the gleaming new finish that does it-a professional job done with De-Vilbiss equipment: Spray Guns, Exhaust Systems, Compressors and Hose. DeVilbiss is proved painting equipment, used by the major vehicle manufacturers and leading fleet operators the country over.

Let us show you how you can cut refinishing costs, increase the value of your rolling stock, and gain greater public acceptance by using DeVilbiss standard equipment designed and built to handle special problems just like yours.

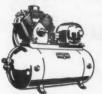
Contact your local jobber or write direct to the factory for further information.

THE DEVILBISS COMPANY Toledo, Ohio

Windsor, Ontario . London, England Santa Clara, Calif. **Branch Offices in Principal Cities**

FOR BETTER SERVICE, BUY **DEVILBISS**











Spray Booths

Air Compressors **Hose and Connections**

COMMERCIAL CAR JOURNAL, March, 1951

New Military Unit

New Military-Unit

This International M-51 shown with dump body is a 5-ton 6x6 now in production. It has a 167 in. wheelbase and will carry a payload of 20,000 lb on the highway or 10,000 lb cross country. Tow loads of from 15,000 to 30,000 may also be applied. Its minimum speed over rough terrain is 2½ mph and maximum highway speed over 50 mph. The vehicle will operate in temperature ranges from 65 deg below zero F to 125 deg above. In addition to these major requirements, the vehicle is equipped with a conversion unit that will enable it to ford deep streams. The unit has operated at a depth of 6½ ft with engine running completely submerged for 15 minutes. Without the kit, the engine is so designed that it will operate in hard bottom streams at a depth up to 30 in.





Because PUROLATOR ... and Purolutor clone . . . offers all 4 advantages in one compact unit . . . Because there is a Purolator Micronic refill unit for practically every make of vehicle or original filter . . . more and more fleet operators are turning to Purolator to reduce refill bills, reduce down time, and engine repairs. Phone or your supplier at once for full information.

PUROLATOR PRODUCTS, INC. Rahway, New Jersey and Terento, Ontario, Canada



CCJ Reports . . .

Continued from Page 162

Bureau of Ships. They will have six, eight, 12 and 16 cylinders, and said to be the most powerful marine diesel engine per pound of weight in production. The engines will have a wide range of application and will be used by the Navy both for propuls on and auxiliary purposes. However, specific use of the various diesel engines was withheld for security reasons.

Times Tells Features Liked in New Buses

Certain New York City bus passengers now ride to work enjoying all the comforts of home-according to a recent report by the New York Times into passenger reaction to the fleet of new Mack buses being added by the New York Board of Transportation.

The Times found these riders highly pleased with the new Mack lighting system, which assures even more light than used in the average home and is five times more powerful than the light level in the old buses they replace.

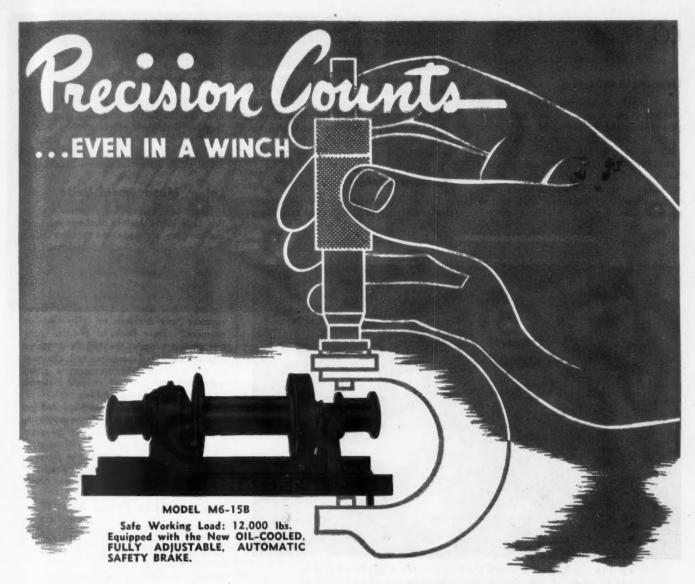
This modern bus illumination is provided by operating fluorescent lamps on a newly developed high-frequency basis. The lights provide 25-candle power per person, compared with about 23 for home use and seven in the older buses.

In addition to this lighting ease, passengers need no longer suffer from drafts or struggle with stubborn windows. Another Mack innovation provides easily adjusted ventilation by sliding, overhead sash open-

Other improvements increasing passenger comfort and safety in the new Mack buses are double-width doors in back and front and hydraulic power steering.

(TURN TO PAGE 166, PLEASE)





Winches aren't made with the precision workmanship of a fine watch. That's to be expected, as tolerances of one ten-thousandth of an inch aren't necessary to make a winch perform perfectly. However, the more care given to the machining of moving parts, the better a winch will perform, year in and year out.

Every part of a BRADEN Winch is scientifically engineered to exact specifications. BRADEN

engineers know, through years of experience, the closest tolerances, the correct machining of parts, and the proper metals to use in manufacturing a winch that will perform to perfection under the most grueling conditions. Yes, precision manufacturing counts in a BRADEN Winch. Performance on the job proves that the extra effort taken by BRADEN in manufacturing a precision engineered winch, is worth the effort in customer satisfaction.

BUY BRADEN - They Are Safer

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CCJ Reports . . .

Continued from Page 164

Hearing Requested

A request for hearings on some of the changes in motor carrier safety regulations proposed by the Bureau of Motor Carriers of the Interstate Commerce has been filed with the ICC by the American Trucking Associations, Inc., along with an assertion that many of the proposed changes "actually will not result in added safety" but might seriously hinder the defense program.

G. D. Sontheimer, director of the Safety Department of ATA, declared the trucking industry "is in accord with the desire for increased highway safety" but at the same time, it recognizes the need for rules which conform to sound operating practices. The association's recommendations, he said, are the result of years of deliberations by men in the industry who have long been engaged in actual conduct of truck transportation.

Western Conference

The 1951 annual western states automotive conference of wholesalers and manu-

facturers sponsored by the Motor and Equipment Wholesalers Association will be held at the Olympic Hotel, Seattle, Washington, on March 20, day before opening of the Pacific Automotive Show in that city, according to announcement just made by MEWA headquarters. All wholesalers and manufacturers attending the show, together with their representatives, are invited to the conference, which starts at 9:30 a.m.—with a luncheon at noon, followed by an afternoon session from 2 to 4.

Labor, Management Unite

Labor and management, united for the first time in the history of the motor hauling industry and appeared together as the Trucking Industry National Defense Committee.

The group held a planning session recently with a conference with Economic Stabilization Administrator Eric Johnston during which the united committee offered to meet "any demands on it by the Government." Dave Beck, of Seattle, executive vice-president of the AFL International Brotherhood of Teamsters, and chairman of the trucking labor-management group, asked for assurance of enough materials to keep defense freight rolling.

Johnston replied that trucking will get "full consideration" as a defense-supporting industry. The aim of the arms program, he said, is not to produce munitions at an all-out rate, but to build up the country's production and transportation capacity to permit all-out production if full war comes.

Trailmobile in Texas

Establishment of a new factory branch in Houston, Texas, and the appointments of three new branch managers, is announced by The Trailmobile Co. John D. Parobek, formerly in the company's sales management department in Cincinnati, is the new Trailmobile branch manager in Houston. Thomas Peacock, formerly manager of the company's sub-branch in Greensboro, North Carolina, has been appointed branch manager in Charlotte, North Carolina. Robert S. Sawyer, formerly resident salesman for the company in Amarillo, Texas, has been appointed branch manager in Oklahoma City, Oklahoma.

(TURN TO PAGE 168, PLEASE)



"How about me trying to sell this accident report as a novel first?"



CP-750 Air Impact Wrench with detachable angle head makes quick work of running a cap screw in an awkward spot.

run nuts faster to correct tightness

with CP Air Impact Wrenches whose impact action is controllable. Air consumption is low, the average being about that of a grease gun.

The only complete line of impact wrenches with detachable angle heads for running nuts, bolts and cap screws in close quarter locations, includes CP-730 to $\frac{1}{2}$ " bolt size; CP-750 to $\frac{5}{8}$ " bolt size; CP-770 to 1" bolt size.

For the tougher jobs on heavy trucks, a still larger wrench, CP-365, capacity to 1½" bolt size, is available in straight or angle head models.



Note short, compact design of wrenches when easily detachable angle heads are removed.



AUTOMOTIVE SERVICE EQUIPMENT . FENDER IRONS . ELECTRIC TOOLS AIR IMPACT WRENCHES . AIR COMPRESSORS . PNEU-DRAULIC PUMPS

DOUBLES PROTECTION DOUBLES THE LIFE

IT'S TRUE! Perfect Circle's Solid Chrome Plating process actually doubles the life of cylinders, rings and pistons!

Every Perfect Circle 2-in-1 Chrome Piston Ring Set gives double protection... with a top compression ring plated with solid chrome to withstand highest temperatures and greatest wear... and a new Oil Stopper, with chrome plated rails for positive oil control.

What's more, every PC 2-in-1 Set gives you a choice of spring pressures... because two expander springs are packed with every Chrome Oil Stopper... a NORMAL PRESSURE spring for rebored and slightly worn engines, and a HIPRESSURE spring for badly worn engines and known oil pumpers! No wonder 2-in-1 gives new oil economy and sustained power in any engine!

NEW CHROME OIL STOPPER

Steel rails plated with Solid Chrome. Alternate HiPressure spring with every Oil Stopper —at no extra cost.

TOP COMPRESSION RING Plated with Solid Chrome.

Here's How
Perfect Circle's 2 In 1

Aleane Astar Airy Set

Gives Double the Life of Cylinders,
Rings and Pistons!

CHROME AT THE TOP ... where temperature is highest ... lubrication poorest ... wear greatest.

CHROME AT THE BOTTOM ... gives positive oil control for thousands of extra miles without danger of scuffing or scoring.



a sure bet in one set for every Doctor of Motors

Perfect Circle
The Most Honored Name in Piston Rings

CCJ Reports . . .

Continued from Page 166

Labor Relations Manual

A new manual "Labor Relations Work Kit" has been published by the National Foremen's Institute, Inc., New London, Conn. As the introduction mentions, the manual is designed to put the labor relations and personnel man in touch with some of the more successful techniques worked out by other companies. Price is \$7.50.

Cooperation Pledged

Representatives of highway transporta-tion units chat with Economic Stabilization Director Eric Johnston after a meeting in Washington where Labor and Management of the trucking industry, through its newly formed Trucking Industry National



Defense Committee, pledged its full on operation in the present emergency. The group, left to right, U. S. Senator Warren Magnuson, (D-Wash.); Johnston, Dave Beck, Chairman of the Labor-Management group and Executive Vice President, International Brotherhood of Teamsters, AF of L; and Leslie C. Allman, President, Truck. Trailer Manufacturers Association, and Executive Vice President, Fruehauf Trailer Co.

Brake Lining Bulletin

Reports on World Bestos Red Block brake lining, on-the-job performance by the nation's leading fleet owners and operators is featured in the 1951 edition of "Sensational Big Red Brake News," published by World Bestos, New Castle. Indiana.

The 4-page tabloid also headlines the complete story behind Red Block—what these men learned from hauling heavy loads over thousands of miles of mountainous, rolling and flat country. Explains how the lining retains full friction with drum temperatures as high as 1300°-and how, with positive brake action, less constant application of the brakes is required, eliminating heat-checking. Write World Bestos, New Castle, Ind., and mention CCJ.

Freight Increases Noted

The volume of freight transported by motor carriers in December, 1950, increased .3 per cent over November, 1950, and 27.2 per cent over December, 1949, according to statistics compiled by the Research Department of American Trucking Associations,

Comparable reports received by ATA from 257 carriers in 39 states showed these carriers transported an aggregate of 3.410,019 tons in December, as against 3,399,326 tons in November and 2,680,092 tons in December, 1949. Approximately 75 per cent of all tonnage transported in the month was hauled by carriers of general freight. The volume in this category decreased 1.5 per cent below November but increased 28.5 per cent over December, 1949

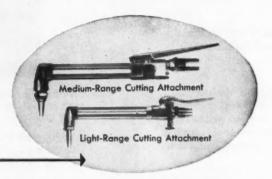
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Please Resume Reading Page 31



That's MY house, over there, the one with all the flowers."

For the "In-Between" **Cutting Jobs**



Trimming · Shaping · Beveling · Groove-Cutting

With a Presr-O-Weld Cutting Attachment, you can switch from welding to cutting or back again just as easily and quickly as you can change a welding head. There's no time lost. Attachment and heads fit the same blowpipe handle . . . and your outfit's always ready for any run-of-shop job.

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Your Prest-O-Weld Jobber can show you the many timeand money-saving advantages of a Cutting Attachment in your shop. Write us for his name and address. Linde Air Products, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y.

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TYPE CW-111 with 2 Nozzles	29.50
Light-Range	/_/
TYPE CW-109 with 1 Nozzle	22.00
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To give your equipment longer life—assure more dependable performance, use the complete QUAKER STATE Lubrication Service. It'll keep your fleet on the road more ... in the shop less.

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Conference Corner

(Continued from Page 6)

The transportation summaries prepared for companies not principally engaged in hauling, are just unrefined work sheets with such a puzzling mixture of accounting variables that a busy man can't get hold of any single issue for decision, Millard pointed out.

On volumes above \$5,000,000, he said a 2 per cent delivery cost means \$100,000. and a 10 per cent savins on that means

\$10,000—"the net profit on, say, \$1,000,000 new business or a 20 per cent increase in volume."

He said that under some cost accountin systems surveyed, truck fleets showed cost per mile fluctuations of more than 100 per cent. Depreciation procedures, large tire purchases and major overhauls, sometimes obscured sizeable slips in fuel efficiency. In one house, some completely depreciated trucks made sick routes look profitable while new trucks made solid routes look questionable.

One metropólitan wholesaler could have

saved at least \$34,000 last year if he had had the right type of trucks for his varied needs, Millard showed in presenting his types of routes, payload variations, ond cost-per-mile" comparisons by age and size of trucks. In this instance, the wholesaler had fuel costs running from 11/4 mpg up to more than eight.

In another study, made by GMC in five branches of a chain grocery operating over-the-road tractors with comparable mileage and payload, 26 diesel tractors and 26 gasoline tractors operating over level terrain showed the diesels to be far more others. On a cwt basis, the diesels cut duction of 34 per cent.

it costs you, the spots where these savings can be made will be apparent," Millard

summarized.

Edwards suggested the use of both engine analyzers and dynamometers to find whether trucks were giving top efficiency.

He also said that an accelerated 10-day

Please Resume Reading Page 10

CCJ Affiliate Honored



At a recent presidential dinner of the Society of Business Magazine Editors, of CCI).

economical, their expense being 5.2 cents per mile compared to 6.9 cents for the the cost from 7.1 cents to 4.7 cents, a re-"If you will start standardized recordkeeping of how much you haul, where you haul it, what you haul it in, and how much

W. W. Edwards of GMC said . . .

Mr. Edwards stressed a program of preventive maintenance for wholesale grocer truck fleets to lower operating costs. Periodic inspection and adjustment, and routine replacement of worn parts keep maintenance expenses much lower than if the truck is driven until a breakdown occurs, he said.

maintenance course, specially designed for fleet supervisors and shop foremen, would pay big dividends.

END



of which Commercial Car Journal editors are members, President Truman presented this handsome silver quill award to Paul Wooton "for outstanding service to the business press." Wooton is Washington editorial board member of Chilton Co. (publishers

THE POSSIBLE IS INDIFFUSE THE ACTUAL IS LIMITED: NEW LINCOLN PLANT CREATED BY INCENTIVE-INSPIRED CO-ACTION IN DEVELOPING POSSIBILITIES IN PRODUCT

the work "Fleetwelder's" Arc-Booster starts or or Arc Strikes Automatically. The instant the electrode No more electrode sticking or arc striking **OUGHER JOBS COME EASI**

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"" to 14" electrodes. Se 1 01 "3% vour maintenance costs.

less than other welders of like capacity Lincoln "Fleetwelder" 200 AC. industrial AC welders.

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. . . belps eliminate burn-through.

SEE HOW FLEET REPAIRS ARE SIMPLIFIED



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Full details on "Fleetwelder" 200 AC are available in free bulletin 1301. Write on your letterhead to,

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Performance that stands out!

No other manufacturer can duplicate Ditzler's record of consistently dependable performance in the field of automotive finishes. That's why Ditzler finishes have been used year after year for nearly half a century by most of the builders of passenger cars, trucks and buses. This continuous preference has

lifted Ditzler to its present position as the foremost exclusive manufacturer of automotive finishes. Because Ditzler finishes are rated as best by those who build automotive vehicles, it is reasonable to conclude they should also be the most efficient, most economical and most satisfactory for refinishing needs,



Save time, effort and cost with DITZLER TWO-STAR ** Materials!

◆ You can't buy better lacquers for automotive refinishing. Thinned with Ditzler Two-Star★★ Thinner, DTL-113, Ditzler Two-Star★★ Lacquers flow on so smoothly that little compounding is required. Two-Star★★ Polishing Cleaner, DRX-4, gives a brilliant lustre. Use Two-Star★★ Polishing Compound, DRX-25, if color is sprayed a little dry, or over-spray is rough. Two-Star★★ Gloss Undercoat, DL-900, eliminates sand scratches in old lacquers. You'll find these materials ideal for small touch-up spots on baked enamel jobs. They are also deluxe materials for all-over jobs in lacquer.

DITZLER COLOR DIVISION, Pittsburgh Plate Glass Company, Detroit 4, Michigan

DITZLER

Turnpike

(Continued from Page 53)

and 6 in. of sub base—stone or gravel with strict but less rigid specifications, also asphalt impregnated. All of these layers as well as those below are compacted with heavy rollers of approximately 50 ton weight. Where new type rubber tired rollers are used, they are loaded to 25,000 lb per wheel.

It should be noted that these top

three layers—a total of 18½ in.—constitute the only place in which construction differs, had the highway used a Portland cement surface. Yet in these top three layers, the Turnpike Authority saved \$5,420,134. The actual cost estimates are: \$39,403,284.00 for asphalt; \$44,823,418 for Portland cement.

As in all limited access highways, the Turnpike must of necessity have a great many fills not only for grade separations, but also across marshy land. Despite the great skill that is going into sub grade preparation (see below) it is still possible that the road level may

settle to some extent. Thus it is the flexibility of the asphaltic pavement, which contains no rigid slabs at any level and which always maintains contact with the sub grades, that deserves greatest attention. This feature, many experts report, is even more important than the savings in cost.

36,000 lb. Axle Loads

OF course it is the 36,000 lb designed axle load that catches the eye of the truck fleet operator. It is not that he expects to use this great a loading. Recent lowering of New Jersey axle weights on adjacent highways will prevent him from doing so. But the important fact is that these load carrying abilities can be designed into the highway at not too great a cost. How much more is it costing over say an 18,000 lb axle load capacity? That's the \$64 question to which we have not been able to get a positive answer. Perhaps it is the Turnpike Authority's credit that it did not even make estimates on an 18,000 lb capacity.

From other sources we find that while no accepted design formula has yet been developed to answer this question directly, experience indicates that the additional cost for 36,000 lb over 18,000 lb loads would be in the vicinity of 18 per cent of the paving cost. In our book, 18 per cent of \$39.4 million would be approximately \$7 million. This is not a very significant amount considering the fact the total cost of the project is in the neighborhood of \$230 million.

Of course the quality of the sub-base materials could also be reduced for lighter loads, but only at the risk of premature failure, such as in the case of the Merritt Parkway, even with strictly passenger car traffic.

Most engineers agree that the major bridges and most of the fills would have been of identical design even with the lighter loads.

In summary, it can be stated that the Turnpike's load carrying ability lies in: (1) the strength of its bridges, (2) the inherent strength of its flexible pavement, (3) the quality of the subsoils and fills, and (4) the degree to which all have been compacted.

Sub Grade Details

MOST interesting of all construction features lies in the sub grades and particularly the consolidation of the swampland (see Fig. 2). Let us take as an example, a spot between Newark and Jersey City where the Turnpike crosses the meadows—a polite colloquialism for swamp. The first step is to place a blanket of sand across the

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You can't give your vehicles more gruelling treatment than that given the tractor-trailer units in the Missouri Petroleum Products Fleet. The units themselves, and all controlling equipment on these units must be able to take it and ask no favors.

In a recent letter Mr. Hunter wrote—"Our fleet of heavy-duty asphalt hauling vehicles really get a 'going-over.' We believe we can safely say that our trucks receive tougher treatment than that given most vehicles in over-the-road operation. Long and heavy hauls over all types of terrain are all in

a day's work. When it came to the selection of brakes all of these conditions were considered. We made the right choice when we selected Wagner Air Brakes."

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Turnpike

Continued from Page 172

fill area, considerably wider than the pavement, varying in depth from 3 to 6 ft. Next, huge pile drivers force steel pipe about 1 ft in diameter deep down into the muck. The depth varies from 6 to more than 100 ft, but the driving stops only when the core hits solid ground. Distance between the cores also varies—from a few feet to as many as 16 ft, again depending on the de-

gree of swamp encountered. In deep fills they also extend well beyond the width of the highway—out under the "berm" or ledge shown in the drawing. All of these cores are then filled with sand and the pipe removed, leaving columns of sand penetrating deep into the mucky bottom land.

What is their purpose? To keep the sub-soils dry. These sand cores act in much the same manner as the old-fashioned lamp wick, permitting water, forced out of the muck by the weight of the fill, to drain harmlessly along the sand blanket to the sides. In doing

so, they add greatly to the weight carrying ability of the swampland.

An interesting by-play on this phase of the question is that it is considerably cheaper than older methods (when used) of digging out the muck and replacing it with a fill. The parenthetical remark is well taken, for too often, dirt has merely been placed on top of the swamp.

After the sand blanket and the sand cores come layers of ordinary dirt as needed to bring the fill up to road base level—sometimes as much as 60 ft. But after each 6 in. of fill, the material is compacted with the 50-ton rollers.

Then between the fill and the surface structure comes perhaps the most important layers of all. First, a layer of frost-free granular sub base material classified as Grade B by the Bureau of Public Roads. Technically it has a plasticity index of not more than 6; only 10 per cent may pass a 200 mesh screen and a California Bearing Ratio of not less than 15 per cent.

On top of that comes a layer varying from 5½ in. (at the center) to 10 in. of grade A3 sub base material which has a plasticity index of not more than 3, only 6 per cent may pass a 200 mesh screen, and the CBR rating must be not less than 20 per cent. In ordinary language both of these layers are carefully selected granular material, practically pure sand and with extremely high drainage ability. The top one course, being of still better quality than the lower. Both are again compacted with the 50 ton rollers.

These two sub-grades, combined with the top three surfaces, give an actual highway surface varying from 36 to 42 in. The thicker sections are mostly under the outside lanes where truck traffic will be heaviest. All of it is flexible.

Shoulder Construction

RVEN the shoulders of the Turnpike have received careful attention. There will be a 16 ft shoulder on the outer edges, 10 ft of which is paved, and a 5 ft paved shoulder between the inner edges and the medium strip. They are of two types, heavier construction being used in the northern end between the Raritan River and the north terminus. This is known as the Type F shoulders and consists of a total compacted thickness of 10 in. Lower layers (not less than 2 in. or more than 4 in.) will be compacted gravel or broken stone, and the top 3 in. will be penetration macadam.

South of the Raritan River shoulders
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Turnpike

Continued from Page 174

will be Type G. These also have a total compacted thickness of 10 in., but specifications are less stringent. Base courses call for pit run gravel or crusher stone mixed with sand to form a solid mass when compacted. Surface treatment will be of the double bituminous (asphalt) type.

Trucks on the Turnpike

WHETHER we like the toll road principle or not (see Editorial, p. 20) the Turnpike will provide a magnificent highway stretching for 118 miles without a traffic light, through the heart of the greatest traffic area the world has ever known. Heavy vehicles traveling from Southern points to New York area now must cross the ferry at New Castle, Del. (frequently bottled up for hours at a time), then wind their way up U. S. Routes 130 and 1 (from Camden North more familiarly known

as New Jersey Route 25). Trucks are not privileged to use the famous Pulaski Skyway (already badly overloaded with passenger car traffic) and meet increasing delays as they struggle across draw bridges over the Passaic and Hackensack Rivers.

When both the new Delaware Memorial Bridge (about four miles north of New Castle) and the Turnpike are opened (the latter is scheduled for November, 1951) there will not be a single delay. Features at the Northern end include new high level bridges across the Passaic and Hackensack Rivers, an underpass at the Pulaski Skyway, overpasses across all railroad lines, a virtually level crossing of the Jersey meadows and direct interchanges for Newark, the Lincoln Tunnel and the George Washington bridge.

Estimated time saving for the entire run is about three hours, varying greatly, of course, on the density of traffic on alternate routes. For this privilege, tolls, which have not been finally established, will be approximately as follows:

Full Sum of Inter-Length mediate Rates
Passenger cars \$1.75 \$2.00
Truck-trailers 4.10 5.10
Buses 3.10 3.10

Throughout its length, the Turnpike will be of the divided type with median strips between opposing traffic lanes. There will be two lanes in each direction from the Southern terminus to the intersection of Route 35, near Perth Amboy. From there to the intersection of Route 3, near the Lincoln Tunnel there will be three lanes in each direction with two lanes in each direction from there to the northern terminus. Throughout the entire length except from Camden south, all bridges and rights-of-way are being constructed for the ultimate addition of one more lane in each direction.

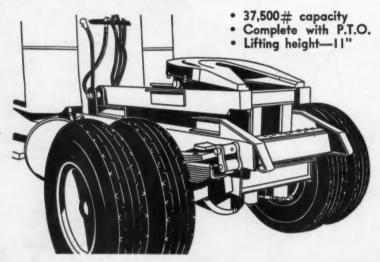
END Please Resume Reading Page 54

Fruehauf Appoints Managers

Appointment of nine division managers to direct the sales activities of Fruehauf Trailer Co. has been announced as follows: E. C. Henning, at Oakland, Calif.; R. D. Mains, at Chicago, Ill.; R. B. Hollingsworth, at Charlotte, N. C.; R. H. Montgomery, at Omaha, Neb.; Paul G. Secoy, at Pittsburgh, Pa.; N. A. Carter, Jr., at Memphis, Tenn.; Earl E. Wright, at Denver, Colo.; A. G. Russ, at Ft. Wayne, Ind.; A. V. Trice, at Los Angeles, Calif.; and N. A. Carter, a Fruehauf vice-president at Memphis will assume active charge of sales development in an eight-state southern region including Arkansas, Louisiana, Mississippi, Alabama, Texas, Oklahoma, Tennessee, and Kentucky.



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A HYDRAULIC POWERED FIFTH WHEEL

—no more hand cranking of landing gear

Wide awake truckers instantly recognize potential savings. Cuts spotting time in half. Easier on equipment—on drivers. It fits nearly every 34" to 37" tractor frame. Don't fail to investigate! Write for more information and names of users near you.

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